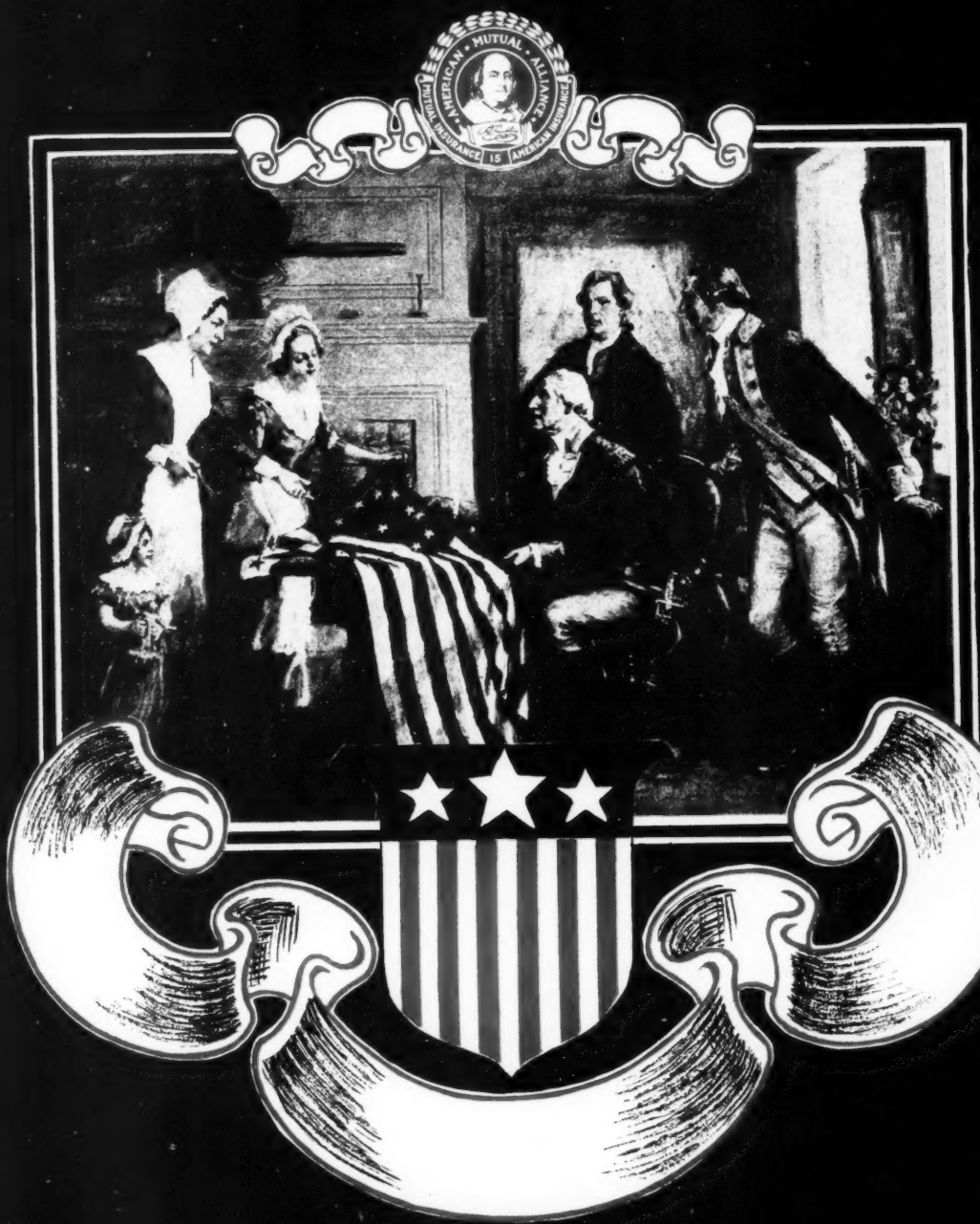
JOURNAL OF AMERICAN INSURANCE

UNIVERSITY OF MINNESOTA



JULY

25¢ 1928

---and Insurance Commissioners have intimate and accurate knowledge of ALL FORMS of Insurance.

"Mutual insurance has always appealed to me as the most economic and humane form of insurance. It constitutes most nearly the fulfillment of the command of the Golden Rule. Mutual insurance is indeed to carry one another's burdens. I have always openly confessed my faith and admiration of the Mutual Insurance principle."

S. A. OLSNESS,
Commissioner of Insurance,
State of North Dakota.

Let Us Write Your

Workmen's Compensation Insurance as well as your Automobile Coverage

* * * * * *

MICHIGAN LIABILITY MUTUAL COMPANY

Resources More Than $3,750,000.00

President

Dividends More Than $2,500,000.00

Home Offices, Detroit
1200 General Necessities Bldg.
Telephone Cadillac 9761

Branch Offices
Grand Rapids, Lansing, Saginaw, Port Huron, Flint, Kalamazoo, Pontiac, Jackson, Munising.

Mutual Hospital, Detroit
2730 East Jefferson Ave.
Telephone Edgewood 4240

Workmen's Compensation, Automobile, Group Health and Accident and other Casualty Lines

Selection of Risks

is essential to the security of an insurance company.

Selection of an Insurance Company

is just as essential to the security of an assured.

The "MILL MUTUALS" fulfill the most rigid requirements.

Western Millers Mutual Fire Insurance Co.....Kansas City, Mo.
Ohio Millers Mutual Insurance Co.....Van Wert, Ohio
Michigan Millers Mutual Fire Insurance Co.....Lansing, Mich.
Mill Owners Mutual Fire Insurance Co.....Des Moines, Iowa
Millers Mutual Fire Insurance Co.....Harrisburg, Pa.
Millers Mutual Fire Insurance Co.....Fort Worth, Texas
Pennsylvania Millers Mutual Fire Ins. Co.....Wilkes-Barre, Pa.
Millers Mutual Fire Insurance Association.....Alton, Ill.
Grain Dealers National Mutual Fire Ins. Co.....Indianapolis, Ind.
Millers National Insurance Co.....Chicago, Ill.

Mutual Fire Prevention Bureau
230 East Ohio Street
Chicago, Illinois
(Operated by the Mill Mutuals)

Free From Technicalities

□ □ □

CENTRAL MANUFACTURERS' MUTUAL INSURANCE CO.
OF VAN WERT

INDIANA LUMBERMEN'S MUTUAL INSURANCE COMPANY
OF INDIANAPOLIS

LUMBER MUTUAL FIRE INSURANCE COMPANY
OF BOSTON

LUMBERMEN'S MUTUAL INSURANCE COMPANY
OF MANSFIELD

NORTHWESTERN MUTUAL FIRE ASSOCIATION
OF SEATTLE

PENNSYLVANIA LUMBERMEN'S MUTUAL FIRE INSURANCE CO.
OF PHILADELPHIA

□ □ □

Offices From the Atlantic to the Pacific

Gale & Stone, Boston. Justin Peters, Philadelphia.
Interstate Mutual Insurance Agency Co., Mansfield, Pittsburgh.
Lumbermens & Manufacturers Insurance Agency,
James S. Kemper, Mgr.
Chicago, Milwaukee, Minneapolis, Omaha.
Lumber Insurance Agency, Indianapolis.
The Martin General Agency, Seattle, Denver, San Francisco.

CONTENTS

JULY, 1928

FRONTISPIECE 4

BUSINESS INTERRUPTION INSURANCE
By Professor F. E. Wolfe 5

MERRIMACK MUTUAL A CENTURY OLD 8

GOVERNMENTAL REGULATION OF INSURANCE
By Professor Avard L. Bishop 9

THE RAINFALL HAZARD
By Colonel John P. Finley 13

EDITORIAL 18

LIFE-LIGHTS AGAINST A BUSINESS BACK-GROUND
By S. J. Duncan-Clark 19

ANOTHER JAPAN OVEN EXPLOSION 21

ACCIDENT AND HEALTH INSURANCE
By Professor C. A. Kulp 23

RATE MAKING IN AVIATION INSURANCE
By Professor Stephen B. Sweeney 25

HAROLD P. JANISCH - - - - Editor and Bus. Mgr.
S. J. DUNCAN-CLARK - - - - Contributing Editor

Copyright 1928 by American Mutual Alliance, Chicago, Illinois

Editorial and Advertising Offices:
180 N. Michigan Ave., Chicago, Ill.

Terms of Subscription: 25 cents per copy; $2.50 per year in the United States; $3.00 per year in Canada; $4.00 in other countries.

Photo by U. & U.

IN THE NEXT MUTUAL CONVENTION CITY

Milwaukee's City Hall, One of the Striking Buildings in the Wisconsin Metropolis, Where Mutual Gathering Will Be Held October 1st to 4th

Photo by P. & A.
The Crowds of Fifth Ave.—Of What Value Would They Be to a Merchant if His Store Were Closed Because of Fire

Business Interruption Insurance

Protection Against the Hazard of Property Made Idle by Disaster Rapidly Growing in Popularity

By F. E. WOLFE
Professor of Insurance
University of Illinois

THE standard form of fire policy protects the insured against direct loss by fire only and distinctly denies liability for the loss due to interruption of business or manufacture. The need for underwriting indirect loss, or consequential damage, was first recognized about 40 years ago, when certain stock companies in New England devised a so-called use nd occupancy clause and added it to policies covering factories against fire damages. The clause was a competitive device for securing and retaining the well-protected sprinklered risks which factory mutuals and other mutual insurance companies were then insuring in large numbers. While no official statistics are available to show the extent to which this class of protection is being carried, its subsequent development into a widely known fire insurance line has been due to several reasons. The risk of physical property damage by fire which continuously confronts business establishments carries along with it an additional risk of indefinite suspension of business activity, cessation of profits, and continuation of fixed charges and unavoidable expenses. Every manufacturer, merchant, and owner of buildings stands to lose, when a fire suspends business operations, not only his expected income but also continuing overhead outlay. Indirect losses have been found often to exceed the direct, especially when the property damage is partial. During the war period manufacturers, who recognized the possibility of costly delay in securing machine parts of either domestic or foreign make, sought insurance against such loss. The demand has further grown because changed business operations make the risk of indirect loss of greater comparative importance. Under recent buying methods small stocks of goods are kept by distributors along the line from retailer to producer, and turnover is more frequent. The total of net profit and fixed expenses becomes a relatively larger factor in comparison with the value of stock, plant and equipment. In view of the probability of greater proportionate loss in overhead and prospective earnings in case of fire, business men require insurance against it.

To meet this loss from stoppage of the use of property for business purposes, either special forms are endorsed on the standard fire policy, or separate policies are issued by all leading fire insurance companies.[1] The coverage includes "use and occupancy insurance" and its related forms—"profits and commissions insurance," "rent insurance," "rental value insurance," and "leasehold insurance." Although long usage favors the title, "use and occupancy insurance," it is lacking in clearness

[1]The endorsement is also attached to the standard tornado, or earthquake, or sprinkler leakage, or riot, civil commotion or explosion policies. Separate policies on these risks are also issued.

and has not been defined generally by the courts. The term "business interruption insurance," which has been adopted by some companies as a substitute for "use and occupancy insurance," describes its character more accurately and suggests the broad scope of the risk insured against. It may be classed as a genus with its related forms as species, and in some of its applications to manufacturing, mercantile, and other business is itself also a species. Each of the above named forms has the same general purpose of indemnifying against financial loss whether, for example, due to fire or other specified cause having interrupted the operation and earnings of a plant, store, theater, warehouse, or hotel, prevented the sale of products, or rendered untenantable, or unproductive of income, a dwelling, an apartment, or leased business property. They differ, however, in adaptation to varying business situations and in their specific provisions.

THE risk of business interruption contains two essential elements: (1) Inadequacy of income from the process of operation to meet maintenance charges as well as to provide for net profits which might reasonably have been earned but for the fire; and (2) Uncertainty as to how long the unfavorable economic condition will continue. Among the items to be considered in estimating the amount of insurance to be carried against the risk may be listed the following, figured on an annual basis and varying with different types of business: (a) net profits expected to be earned, straight profits or commissions on finished stocks of goods, or income from rents, rental value, and value of leasehold interest; (b) taxes, ground-rent, or other rent; (c) interest on notes and bonds; (d) salaries and directors' fees; (e) royalties for machinery and processes which are payable whether operating or not; (f) wages of foreman and skilled help who cannot be laid off; (g) other fixed charges, or special expense items which cannot be discontinued during suspension of operation. A plant with its equipment is valuable while the tenant occupies it and uses it to earn a gross profit. When fire deprives him of the opportunity so to use it, he makes no net profit, and continues to pay such standing charges as must be borne until operation is resumed. The total of estimated net profit and unavoidable charges for one year constitutes the amount of value which may be insured if complete protection is desired. Another suggested indication of a reasonably fair average amount is to take 10 per cent of the annual average volume of business of the concern for the preceding year or two years. The annual business of a future year following the fire loss determines the extent of the risk, and, while maintenance charges can be easily proved, prospective profits require to be estimated. Hence in underwriting the risk precautions must be taken to preserve the contract as one of indemnity only.

Business Interruption, or Use and Occupancy Insurance.—Its purpose is to indemnify manufacturers, merchants, owners of power plants, hotels, laundries and theaters, warehousemen, and others for (a) the loss of fixed charges and other necessary expenses that must continue during a partial or total suspension of operations, and (b) the failure to realize anticipated profits on the production of goods, or on other business interrupted by fire; but (c) not to exceed a specified proportion (usually 1/300th) of the amount of loss for each working day during a period reasonably required for resumption. Only the actual loss sustained by fire in the premises is to be paid, and standing charges to the extent only that these would have been earned had no interruption occurred. Capital and equipment are more or less unproductive while rebuilding or repairing is going on, and (in a manufacturing risk) the machinery reset. The extent of the loss depends upon the severity of the fire, the nature of the business, and the ease with which new machinery if required could be bought and put in place with the proper operating equipment. If stock is insured in a manufacturing risk, raw stock or stock in process is meant, and not finished stock. Loss of use of a factory cannot in itself benefit nor harm the finished stock. But this form of insurance would properly cover finished stock and merchandise for sale in a mercantile risk.

12th ANNUAL MEETING
FEDERATION OF MUTUAL FIRE INSURANCE COMPANIES
and
NATIONAL ASSOCIATION OF MUTUAL INSURANCE COMPANIES
MILWAUKEE, WISC.
OCT. 1st, 2nd, 3rd, 4th

BUSINESS interruption insurance may be taken by an individual, a firm, or corporation—whether tenant or owner. Coverage applies to buildings, machinery, equipment, and necessary raw materials or stock used by the particular business. Contracts are written on manufacturing plants, mercantile establishments, and other enterprises. Certain classes of concerns are undesirable risks from the standpoint of the underwriting company, such as those that are not well established or managed, or those engaged in the manufacture of fads or catering to a temporary demand. On account of varying conditions affecting business interruption insurance in different kinds of business it is necessary to adapt clauses and forms of policies which best meet each situation. A uniform clause or one standard policy is, therefore, difficult, if not impracticable to formulate, although some degree of standardization in wording has taken place. Three contract forms are in use: (1) constant earning, or 300 (365) day form which provides payment in the event of loss for the same per diem amount for each working day in the year; (2) the seasonal form with an unlevel scale of per diem payments varying as between certain named dates; and (3) the coinsurance form, in which a clause stipulates that the percentage of insurance shall be based upon the total of net profits and all expense which would have been earned had no fire occurred. The first two indemnify the insured in practically the same way as if they contained the 100 per cent coinsurance clause, for the insured cannot recover full actual loss unless the total contributing insurance is equal to 100 per cent of one year's net profit and fixed expense. Under the constant form the amount recoverable for one day's interruption is 1/300th of the insurance carried. Hence this form should be used only when the value of the plant or premises for continued operation or use is approximately the same for each day of the year. The seasonal form would provide, for example, in an assumed case of an insured dry goods merchant, $250 a day during the summer months, $500 a day in September and October, $800 a day

in November and $1,200 a day in December, and proportionate amounts for other months as immediately preceding annual records indicate variations of monthly earnings. This form is appropriate for many different types of business. The coinsurance form is used in those cases where the insured have found that in periods of brief interruption none of their expense is avoidable. If any expense is avoidable the differential rates charged for this form make its purchase inadvisable. Valued policies are not written, as a rule. They eliminate the necessity of proving a loss by a detailed statement, and an insurance company issuing this kind of policy on a concern that is not in a prosperous condition invites a loss.

Conditions Determining Company's Liability.—The policy sets forth the conditions under which the insurance company is liable for "the actual loss sustained of net profits on the business which is thereby prevented, and for such fixed charged and expenses as must necessarily continue during a total or partial suspension of business." It provides that the indemnity payable shall continue "for such length of time as shall be required with the exercise of due diligence and dispatch, to rebuild, repair or replace such part of said building, and machinery and equipment and stock as may be destroyed or damaged (commencing with the date of the fire and not limited by the date of expiration of this policy) . . ." The company remains liable until the termination of an interruption even though the policy may have expired in the meantime. Liability, however, continues only until replacement can be made, as otherwise claims could be made for payment over the further time, after the restoration of the building, equipment, and stock (if covered) that the insured would consider necessary to put his organization in its usual condition of efficiency. Measurement of liability is in terms of replaced physical property, for as yet the element of plant efficiency is too indefinite to permit an accurate determination of the proper premium rate. The contract requires the insured to resume operations as soon as practicable after the loss, if such operations will reduce the insurance loss, and to that end must use any surplus machinery, or parts thereof, equipment, stock and supplies, or property in another location, if obtainable, to shorten the period of loss payment.

THE company's liability is defined as not exceeding "the maximum amount of insurance by this policy, nor a greater proportion of any loss than the insurance hereunder shall bear to all insurance, whether valid or not, covering in any manner the loss insured against by this policy." The amount recoverable is limited to a per diem fractional part of the total insurance. Thus, one policy form for manufacturing plants in steady operation provides: "The per diem liability under this policy during the time of total suspension of business of all properties described herein shall be limited to the "actual loss sustained," not exceeding 1/300th of the amount of this policy for each business day of such suspension, due consideration being given to the experience of the business before the fire and the probable experience thereafter." If the business operates Sundays and holidays and expects "constant and continuous earnings," as do hotels, power plants, and some other lines, the year must be taken as containing 365 days and the fraction changed to 1/365th. During the time of a partial suspension, liability under the policy is defined as "not exceeding that portion of per diem liability that would have been incurred by a total suspension of business, for the same time." The daily production (or business) at the time of the fire also "shall be based upon the average daily production (or business)

(Continued on page 31)

Photo by U. & U.

Nor Would the Throngs in State St., Chicago, Be an Asset to an Establishment in ruins.

Merrimack Mutual A Century Old

Massachusetts Company Established In 1828 Points to Consistent Growth As Proof of Correctness of Mutual Principles

OCCASIONALLY we learn of a person who achieves prominence for having passed the 100 year mark in the race of life. Such records are rare and deserve appropriate recognition.

Likewise with institutions.

Just as humans are subject to innumerable influences which have reduced the average life to less than three score years, so institutions, the product of man, bear a high mortality rate in the early stages of their existence. Hence the concern that spans a century attracts attention.

On February 11th, 1828, citizens of Andover, Massachusetts received from the Commonwealth the charter for the Merrimack Mutual Fire Insurance Company. The river of that name had long been turning the wheels of New England factories. Its mighty natural dam of 1700 feet span was only a few miles away and was fitting inspiration with its promise of perpetuity for the name of a mutual institution.

THE first meeting of incorporators for the adoption of By-Laws and election of Directors was held February 28th at Locke's Tavern. In those days the local Tavern was still the center of activities in any community. The Act of Incorporation required the pledging of $100,000 of liability before the writing of policies could begin. The confidence of the property owners was shown by the completion of pledges in less than two months.

The first Board of Directors was wisely chosen from the leading citizens of the community, physicians, bankers, manufacturers, the sheriff and the postmaster. The willingness of these influential and busy men to lend their time and counsel to a new project without hope of financial reward was additional evidence of the flowering of that spirit of cooperation which is a contribution of the Pilgrims who first peopled the North Atlantic coast. The best minds in every community in the early years of the 19th Century were united in fostering educational and financial improvement along mutual and cooperative lines.

This spirit was especially evident in Andover, being spurred on perhaps by the signal achievements of Phillips Academy which completed that year its first half century. Witness the founding in 1826 of the Andover National Bank; Merrimack Mutual Fire Insurance Company, 1828; Abbot Academy, 1829; and Andover Savings Bank, 1834.

As one reads the pages of the Merrimack Mutual's record books, we find the history of the Company can be told best as a history of men.

(Continued on page 20)

(ABOVE)

The Jenkins Homestead in Andover, Massachusetts *on Which Policy No. 1 Was Issued by the Merrimack Mutual in the Spring of* 1828

(TO RIGHT)

"The America House" *Also in Andover Where the Famous Patriotic Song Was Written. It Is Likewise Insured in the Merrimack Mutual*

Governmental Regulation of Insurance

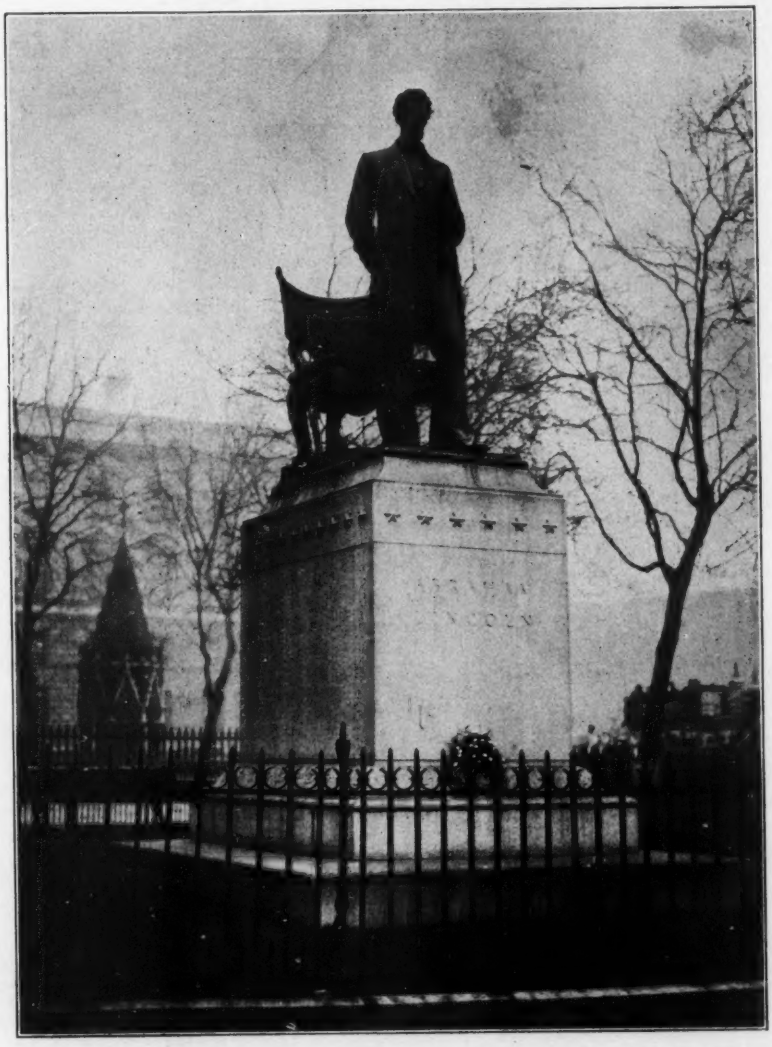
Multiplicity of State Laws Tend to Complicate a Business Which Could Function Better if Subject to Fewer Statutes

By AVARD L. BISHOP
Professor of Business Administration
Yale University

ARTICLE XI

IN this country, the regulation of the insurance business and of insurance companies is exercised by the individual states. It is hardly an exaggeration to say that each is a law unto itself and can set up practically whatever requirements and regulations it deems desirable. An insurance company, when it is formed, receives authority to carry on business by some one state which is thereafter recognized as its home state. If it wishes to carry on business outside of its home state, it can do so only by complying with the laws and regulations with respect to the admission of foreign companies of each additional state it wishes to enter.

An insurance company doing business in five states, for example, is subject to the insurance laws of five different states, one of which is its home or domestic state, and four of which are fields in which it later has been allowed to enter. Theoretically and practically it serves five different masters. If a company does almost a nation-wide business, operating let us assume in forty different states, it must obey the mandates of forty different masters. It has to keep itself informed as to the constitutional and statutory requirements of each state on literally scores of different matters, and then see to it that the law of each state is observed with regard to these various matters upon which it has informed itself. Although it is said that conditions have improved in recent years, at times the laws of different states are conflicting on certain points. For example, in some states the law requires the various companies operating within the state to charge uniform rates for similar risks, and of course this cannot be done without the different companies agreeing among themselves as to schedules of rates; in other states, agreements between different companies as to rates to be charged is in violation perhaps of a state law, commonly known as an anti-compact law. There is little wonder that more is not heard from the companies operating in numerous states of the inconveniences of multiple state legislation on insurance, and of the difficulties in complying with the different laws as a matter of actual workaday practice.



President Lincoln Was An Advocate of Uniform Laws As One Means to the Desirable End of Making the Nation More Closely United.

THE activities of the federal government with respect to insurance are practically nil. It has, of course, certain general regulatory powers, such as the power of taxation. Moreover, on theoretical grounds, the federal government might very well exclude from entering this country an insurance company chartered under the laws of some foreign government and seeking admission into the United States. Also, for certain reasons, it might require an alien company that has been operating here to withdraw from the country. Such potential power, however, is seldom if ever exercised. In other words, apart from the matter of taxation, in which power of course it shares with the individual states, federal regulation of insurance in the United States does not exist; rather the regulation of insurance by the separate states is a matter of actual practice.

The supervision of insurance as carried on in this country has centered around the passage of state laws with respect to the organization of insurance companies and the carrying on of their business, and the creation of the necessary machinery for the carrying out of the provisions of such laws. In most states a designated official styled, usually, Insurance Commissioner or Superintendent of Insurance, is empowered to administer the insurance laws, although in some jurisdictions this important work is still entrusted to some other state official, such as the Auditor or Treasurer, as more or less of a side line to what is usually regarded as his leading duties.

In the majority of states the Commissioner or Superintendent of insurance is a separate official holding office in some cases by virtue of election, in others upon the appointment of the governor of the state. It is usual for the commissioner to have considerable power handed over to him, touching such matters as the administration of the insurance laws, the solvency of companies, and so on. Foreign companies must get his permission to enter the state for the carrying on of business. Books of companies must be laid open to him for examination if he so desires. From the viewpoint of his responsibility to the public, the commissioner of insurance is expected to allow within the bounds of his state only the carrying on of sound insurance business on the part of companies operating within his jurisdiction.

The regulation of insurance in this country did not originate with the first practice of the insurance business here. In fact, some of the older companies in the fire insurance field, for example, carried on their business operations unmolested by governmental regulation for several decades. At any rate, this was the case in several of the states. Massachusetts seems to have taken the initiative in the supervision of insurance for as early as 1807 a state law required each insurance company operating within the state to file periodically a report with a state official. About twenty years later, New York passed a law with a similar requirement. Additional legislation was added here and there now and again, but it was not until shortly after the middle of the nineteenth century (1855) that any state in the United States inaugurated a policy of governmental regulation and supervision of insurance comparable in any way with what we understand by these terms at the present day. This was the state of Massachusetts.

THE law of 1855 passed by the commonwealth of Massachusetts is, we repeat, rather generally regarded as the first serious step in state regulation of insurance. It embraced a plan for establishing a board of insurance commissioners, created an insurance department—the first to be established in this country—and required the board of insurance commissioners to administer the insurance department. Power was given the commissioners to examine into the affairs of insurance companies and such examination was carried out without giving previous notice to the company concerned. In general, the primary purpose of the examination was to determine whether or not the company was financially able to carry out its contracts—a very important consideration both for the insured and the general public. Starting in Massachusetts in this somewhat modest way, the regulation of insurance and of insurance companies by a very large number of the states has both broadened and deepened until at the present day insurance has come to be a much-regulated business. The second state to establish a Department of Insurance was New York, in 1859. Connecticut followed suit in 1865. These three states have been, and are still, the home of a large number of insurance companies, and this may help to explain the leading parts always played by these states in the regulation and control of insurance. In passing it may be of interest to mention that the growth of life insurance, particularly in the period immediately following the early forties, was largely responsible for the establishment of the Massachusetts Insurance Department in 1855.

There have been times in this country when the question of federal jurisdiction over insurance has been much in the forefront, in spite of what has been said regarding the matter of state control. Nor is the issue even today completely a dead letter. There are many who contend that the regulation and supervision of insurance, especially in interstate matters, should be in the hands of the federal government. This contention is held in certain quarters in spite of the fact that the constitution of the United States does not contain any express grant of power to regulate insurance. Nor is there clearly an implied grant of power in this matter.

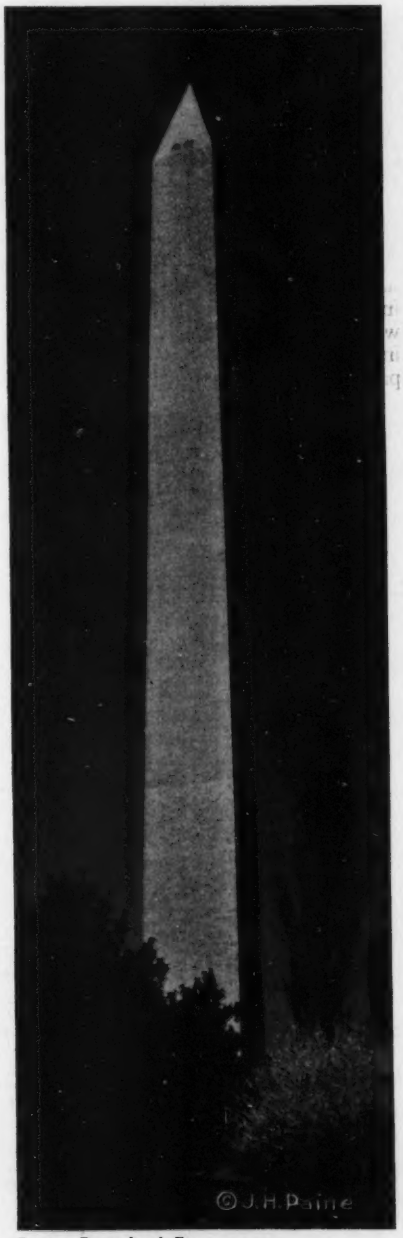
EFFORTS have been made to seek out such implied power at certain points as, for example, in the statement that "the citizens of each state shall be entitled to all the privileges and immunities of citizens in the several States." But insurance is carried on very largely by corporate organizations, and it is generally well-recognized that a corporation is not a citizen in the sense of this term as used in the clause just quoted. Of course, there is the so-called general welfare clause that often is looked to for the necessary authority for Congress to do certain things not authorized elsewhere; but it would require a very considerable stretch of implied powers, so it would seem, to believe that Congress might legislate with respect to insurance under the general welfare clause. There might still be some color of authority in the so-called commerce clause of the Constitution, were it not for the fact that the Supreme Court of the United States long ago held that insurance is not commerce, and this early decision has been reaffirmed in later cases. The original case was that of Paul versus the State of Virginia to which brief notice will now be given because it will shed some light upon the reason as to why state jurisdiction over insurance is now so firmly entrenched in America. The decision was handed down in 1868, only about a dozen years after the establishment of the first State Insurance Department in the United States, that is to say very shortly after the beginning of a conscious movement toward the control of insurance by the separate states.

TURNING now to a consideration of the case of Paul versus Virginia, the facts, briefly, were these. Mr. Samuel Paul was a resident of Virginia, interested in insurance from the practical side. In fact, he was made an agent in Virginia for a number of fire insurance companies organized under the laws of the State of New York. There was then in existence a Virginia statute with respect to insurance agents operating there for foreign companies, and Mr. Paul applied for a license to do business in Virginia for the New York companies referred to. He was willing to comply with all the requirements of the state excepting that he declined to make a deposit of some sort with the State Treasurer. The license, of course, was refused, but Mr. Paul continued to solicit business for his companies without the license. As might be expected, he was interferred with by

state authorities, and when brought before the circuit court of Petersburg was convicted and fined a nominal sum. Upon appeal to the supreme court of the State the decision of the lower court was affirmed. An appeal was then taken to the Supreme Court of the United States, the main line of defense being that the business of insurance was commerce; that Paul was the agent in Virginia for certain New York insurance companies; that he therefore was engaged in commerce between the states, an activity not subject to the jurisdiction of the State of Virginia. It was further contended that the Virginia statute undertook to regulate interstate commerce, and that it, therefore, was contrary to the commerce clause of the Constitution of the United States. In spite of what some might hold to be a valid contention, the Supreme Court would not allow the contention to prevail and consequently affirmed the decisions of the two lower courts. This was on the ground that "Issuing a policy of insurance is not a transaction of commerce. The policies are simple contracts of indemnity against loss by fire . . . These contracts are not articles of commerce in any sense of the word . . . Such contracts are not interstate transactions . . . They do not constitute a part of the commerce between the states."

As already suggested, this early decision has been reaffirmed in later cases, and, to many, the question of the possibility of federal jurisdiction over insurance seems to have been settled for good and all. For example, in a case decided in 1894, the court reaffirmed the idea previously held that the business of insurance is not commerce, and that an insurance contract is not an instrumentality of commerce in the constitutional sense of the word. Still other decisions follow much the same line of thought. Of course, however, the Supreme Court is not necessarily bound by former decisions, and if it were called upon to decline a case on the question of federal jurisdiction over insurance in the light of present-day conditions no one could forecast what the decision might be. Friends of federal supervision, confirmed in their belief that insurance is commerce, would wish to have the federal government undertake to regulate insurance, in full confidence that if the Supreme Court were now called upon to render a decision in the matter, its former decisions would be reversed—that it would declare that insurance is commerce.

OTHER friends of federal supervision of insurance are insistent upon an amendment to the Constitution to accomplish their purpose. They take the ground that the state is sovereign with respect to matters concerning which it has not handed over its power to the federal government. And, inasmuch as, in their opinion, control over insurance never has been relinquished by the individual states, federal control cannot become an accomplished fact without an amendment to the Constitution.



Courtesy Pennsylvania Ry.

WASHINGTON'S MONUMENT

Which in the History of Its Construction Symoblizes Unity of Effort

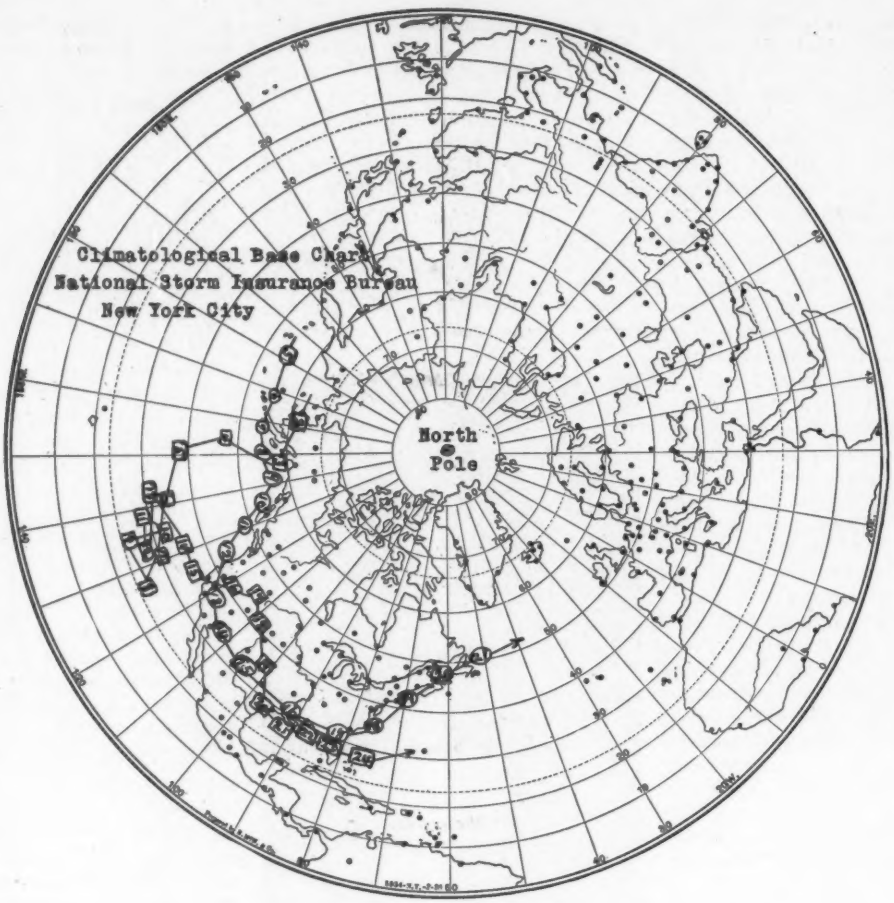
Such procedure, however, is looked upon by many to be absolutely impossible of attainment.

It is probably now apparent to the reader why we have control of insurance in this country by the individual states rather than by the federal government. So far as we are able to perceive, state supervision is here to stay; federal supervision, in spite of the alleged advantages of a single master rather than fifty masters for the insurance companies to serve, is probably nothing more than a dream. On the assumption that this is true, it would seem to be a wise attitude to adopt to accept state supervision as an established fact, and to work toward the gradual improvement of existing conditions in the state statutes pertaining to insurance. In passing, it might be mentioned that even though federal supervision did eventually become an accomplished fact, this would probably apply only to the interstate business of the insurance companies, so that there would still remain state jurisdiction over the intra-state or domestic business of each insurance company.

It has been suggested that the best solution of the insurance regulation problem in the United States lies in the movement toward uniformity of state laws. There is a good deal of sense in this proposition, particularly if the movement toward uniformity takes the direction of simplicity and economic soundness. How to accomplish the desired aims is quite another matter. Very little is accomplished in this world without a conscious organized effort to achieve a certain definite aim. Much progress already has been made in the movement toward better and more uniform insurance legislation, and a good deal of this is attributed, by some, to the work of the National Association of Insurance Commissioners, an organization which in the words of one authority "has accomplished more than any other single agency for uniformity of state legislation and administration."

It seems pertinent at this point to quote a few extracts from an address of Robert Lynn Cox, delivered some years ago before one of the annual meetings of The Board of Casualty and Surety Underwriters held in New York. His talk was on the general subject of co-operative methods to meet modern tendencies of governmental control of insurance, and he was advocating strongly the necessity of the various insurance interests getting together to present a

(*Continued on page 20*)



CLIMATOLOGICAL BASE CHART

PLATE NO. I. Meteorological Station Chart of the Northern Hemisphere. Small black dots indicate the location of observing stations on islands and continental areas. Tracks are also shown of a Cyclonic LOW and an Anticyclonic HIGH, moving eastward from the Nort Pacific Ocean, across the United States into the area of the North Atlantic Ocean, between the dates of March 2nd and 24th, 1928.

Small circles indicate the progressive centers of the LOW on the successive dates entered therein from March 5th to 21st, 1928. Small squares indicate the progressive centers of the HIGH on the successive dates entered therein from March 2nd to 24th, 1928.

This chart illustrates certain of the conditions of atmospheric circulation that preceded, attended and followed the catastrophic losses resulting from the destruction of the St. Francis Dam in the Santa Clara Valley and San Fransicquito Canyon, Sierra Madre Mountains, Los Angeles County, California, about 1 A. M., March 13th, 1928.

The Cyclonic LOW that appeared over the Aleutian Islands March 5th and 6th., moved slowly southeastward along the North Pacific Coast and spread over California on March 12th and 13th, finally disappearing eastward over Arizona and New Mexico. During the night of the 12th and the morning of the 13th rain fell in southern California and southern Nevada. During the 13th cloudy and rainy conditions prevailed over the entire Pacific Coast region, from British Columbia southward to Mexico. These conditions cleared up on the 14th as the Cyclonic LOW passed eastward into New Mexico, and the Anticyclonic HIGH advanced eastward over the Pacific Coast States.

Attention is called to the persistence of the Anticyclonic HIGH, over the ocean southwest of Los Angeles, in North Latitude 30 degrees and West Longitude 130 to 140 degrees, from March 6th to March 14th inclusive. This persistent HIGH fed into the Cyclonic LOW, over the South Pacific region, a constant stream of warm, moist air, tending to deepen the LOW and increase its precipitation. These occurrences contributed to increasing the water contents of the great reservoir at the San Francisquito Canyon Dam, until finally it broke down the great concrete structure and sudednly discharged around thirteen billion gallons of water into the Santa Clara Valley, overflowing the Santa Clara River, causing a loss of 400 lives and about $30,000,000 of property.

Through the Santa Clara Valley, this tremendous discharge of storage water was carried into the sea. But for the protecting walls of the Sierra Madre and Santa Monica Mountains, the city of Los Angeles, of more than one million souls, would have been partially destroyed, lying as it does about 50 miles due south of the St. Francis Dam. Cracks had been observed in the dam about 12 hours before the disaster occurred. Some of these cracks had been filled with oakum by the Assistant Engineers, but no warning of impending danger had been given out to the people in the Santa Clara Valley or elsewhere. No account was taken of existing weather conditions, with almost continuous rains and snows over the mountain areas of California and Nevada, from February 20th to March 13th, 1928 inclusive. The water from melting snows, freshets and rains was constantly pouring into the reservoir of the St. Francis Dam.

In the construction of this dam NO SPILLWAY was provided to carry off safely the excess storm-water and relieve the great pressure on the concrete structure. If, as now alleged, by competent engineers, the foundations of the dam were insecure against seepage, all the more necessity existed for additional protection by the use of a spillway. The water thus diverted from the main catch-basin need not have been watsed for it might have been carried into a secondary reservoir, also protected by a spillway, directing the excess into a third reservoir. An ounce of prevention is worth a pound of cure."

Photo by U. & U.

PLATE NO. II. The great mass of masonry, steel and concrete stretched for 650 feet across the San Francisquito Canyon, rising 205 feet on its outer face. An official estimate of the reservoir's capacity is given as 12,362,300,000 gallons. Its 175,000 cubic yards of concrete crumbled under the straining force and weight of the constantly accumulating storm water. The surface of the concrete along the fractures where the ends broke off from the center portion gave evidence of a weak foundation. In places the rock on the side walls of the canyon, on a line with the two broken ends of the dam, could be readily crushed with a small hammer. Subject to seepage the footing of the dam where it abutted into the canyon sides gradually weakened and gave way, breaking off from the central portion that survived the disaster.

The Rainfall Hazard

Fundamental Factors Related to This Weather Risk and Their Practical Application to Underwriting

By COLONEL JOHN P. FINLEY

Consulting Meteorologist and Manager National Storm Insurance Bureau, New York City

Article IV. Rainfall Diurnals.

THIRTEENTH SECTION

THE constitution of the atmosphere as well as its circulation must be understood if we would gain a useful knowledge of the causes of precipitation and its distribution over the face of the earth. Whatever details enter into the construction of the atmosphere must have a bearing on the great problem of rainfall. All of man's activities are bound up in the release of precipitation by atmospheric evolution. We have learned that the following influences in the air contribute to the production of rainfall:—Cyclonic Circulation; Solar Radiation; The Presence of Dust Particles; Ionization; Changes of Temperature, and Variations in Electrical Conductivity.

When contemplating the insurance hazard involved in precipitation, the above factors must be considered and weighed, and the results applied to the solution of the underwriting problems by expert statisticians and technical assistants. Systematic observations of the basic atmospheric elements, such as pressure, temperature, wind direction and velocity, and precipitation, require to be continued over any given area for a long series of years, to demonstrate the steadiness and continuity of atmospheric changes in the repetition of characteristic occurrences. The rating of Weather Insurance hazards must be based on the uniform recurrence of these typical events, in regard to time, place and amount. The problem is climatological, rather than meteorological. The former deals with types, the latter with occurrences that, collectively, compose the types and seriously affect animal and vegetable life.

The climatological study of any zone, necessarily embraces normal values and statistical ratios. The meteorological records must be collected for long periods, and correlated to serve the purpose of a particular objective, such as weather insurance coverage, and further specialized, to be made applicable to the various classes of this objective; listed as Tornado, Hail, Hurricane, Rainfall, Flood, Frost, and Drought Hazards. The successful rating of these risks involves the problem of developing the stability of the essential climatological factors. In general terms, they are Geographical, Geological, Astronomical, Electrical and Meteorological.

IT is conceded that there are many ways of constructing a theory of climatic change with a moiety of truth in all of them. For our purpose, we must assemble and analyze the truths, most closely associated with the scientific rating of weather hazards. In doing this work, we will not overlook the influence of first and fundamental sources of information. Collectively, they will resolve the questions of uniform and stable climatological changes. The greatest extremes of climate are not to be attributed to the abnormal development of any one factor, but to the cooperation of a number of different factors, acting in the same direction. In a general review of the subject, it may appear probable that the dominant factors have always been geographical, but we must give this term a very wide meaning and include, not only the distribution of land and sea, and the systems of ocean currents, which result from it, but also the vertical circulation of the sea, the general elevation of the land and the amount of explosive volcanic activity. Although considerable research work seems to indicate that the geographical factors have dominated the climatic history of the earth, this does not mean that other non-geographical factors are without effect.

When the distribution and elevation of the land remained practically constant, in certain geological periods, a number of minor fluctuations of climate have been associated with variations in solar activity. Similar fluctuations have occurred throughout geological time, but, for the most part, masked by the much greater effect of the geographical factors. It is only in the exceptional instances that solar influences can be recognized, as in the varve (ring) clays, formed during the melting of the Quartenary ice-sheets. When the varve, or ring clays, of earlier glacial periods, also the rings of the fossil trees, found in various geological horizons, and other remains, which depend on seasonal changes of temperature and rainfall, come to be examined, in detail, it is expected that further evidence will be discovered of the existence of minor climatic fluctuations, which can be attributed to small variations of solar radiation. If such data can be collected and analyzed in a manner similar to the treatment of the tree-rings, or the Nile flood records, satisfactory and instructive results may follow.

In these relations, stable ratios may reasonably be expected, as between geological remains and atmospheric influences. Given certain atmospheric conditions, and we may expect certain visible and measurable effects upon animal and vegetable life. Applying the science of statistics to these materials, we will be able to demonstrate the steadiness of atmospheric influences, and therefore the invariability of weather changes, governed by the laws of atmospheric circulation. Variations in the basic meteorological elements, whether on an ascending or descending scale, invariably return to the balanced normal, observing a significant regularity of amplitude.

WE know that the more or less regular variations in the inclination of the earth's axis, the eccentricity of its orbit, and the precession of the equinoxes, must have influenced the seasons in the past. However, no climatic variations have been found of such a nature that they can be unhesitatingly attributed entirely to these astronomical factors. Some of these factors may be responsible, referring to past occurrences, for the sequence of deposits in the coal measures, and in the Tertiary of Southern Europe, and there is good reason to believe that the large annual range of temperature, in Northern Europe during the Boreal or Continental Period, was partially due to a high inclination of the earth's axis. Even in the last example, however, the main cause of the extreme climate, was probably geographical, not astronomical, while the historical period, in which geographical causes fell into the background, has not been long enough for any of these astronomical

Photo by U. & U.

PLATE NO. III. The self-recording water gauge on the St. Francis Dam provided the technical figures for a graphic picture of the extraordinary catastrophe. Between 20 and 30 minutes from the time the leak outflow began to register, the rush of water had reached 10,000 cubic feet per second. A few minutes later it had jumped to the rate of 600,000 cubic feet per second. Under this tremendous impetus a wall of water estimated at a height of 60 feet rushed down the Santa Clara Valley. There was a noticeable scarcity of non-fatal injuries.

factors to change sufficiently to make their presence felt.

Any change, geographical or astronomical, can only become effective through its action on the atmosphere, but it will be seen that this action is complex, and may at times produce unexpected results. During the warm period, for example, there was a large amount of water-vapor in the air, yet the cloudiness, rainfall, and evaporation were less than at present, because the extension of the subtropical anti-cyclones into higher latitudes, led to more stable conditions.

The great climatic importance of cloudiness must be recognized, but no attempt should be made to dissociate this element from the pressure distribution and the atmospheric circulation in general, and in relating it to the earth's heat. Any such neglect of meteorological principles, as have been followed by some theorists in the domain of palaeo-climatology, will result in serious error. The theory which attributed all the great climatic changes to variations in the amount of carbon-dioxide, affords an illustration of the weakness of erroneous assumptions, which cannot be verified by physical experiments and actual experience. Chamberlain's ingenious theory of the reversal of the oceanic circulation, to give warm periods in high latitudes, although it never had many advocates, was really a better physical basis than the theory of carbon-dioxide. As a matter of fact, a change in the type of oceanic circulation may prove of some considerable climatic importance, but its weight as such is only in the role of an auxiliary factor, in conjunction with favorable geographical and meteorological conditions.

Reverting again to electrical influences, we find that the origin and maintenance of the negative charge of the earth, and how to explain that such charge is maintained, notwithstanding the conductivity of the atmosphere, has failed, as yet, to receive a satisfactory solution. Some investigators assert, that since the vertical current is constant, up to at least 1,800 meters, the maximum altitude at which it has been determined, it naturally follows that the negative charge of the earth cannot be supplied from the air, below that level. On the other hand, it cannot be supplied by electrical separation within the earth, as that will quickly result in a positive, instead of the prevailing negative surface charge.

It has been suggested that the negative charge of the earth may be maintained by a bombardment from the upper atmosphere, or even from cosmical space, of negative ions of much greater penetrative power than any now known to science. While this effort at solution is only a suggestion, it is a hopeful one in the direction of further and encouraging investigation of one of the greatest problems of atmospheric electricity. On this fascinating, profound and promising subject, Swann has proffered the following explanation:—

"Measurements of the Variation of the Penetrating Radiation, with Altitude point to the upper atmosphere as the origin of a part of this radiation. The whole of the penetrating radiation is probably of the gravity-ray type, but the part which reaches the earth's surface from the outer atmosphere, is naturally of the most penetrating type. Indeed, it is so penetrating that it passes through a thickness of air which would be equivalent, in absorptive action, to a column of mercury 76 centimeters high, if absorption coefficients were simply proportional to density and were independent of material."

The atoms discharged by the gravity-ray radiation will be negative, and emitted almost entirely in the direction of the radiation, and their range in the air will be equal to the swiftest rays from radium products.

(Continued on page 30)

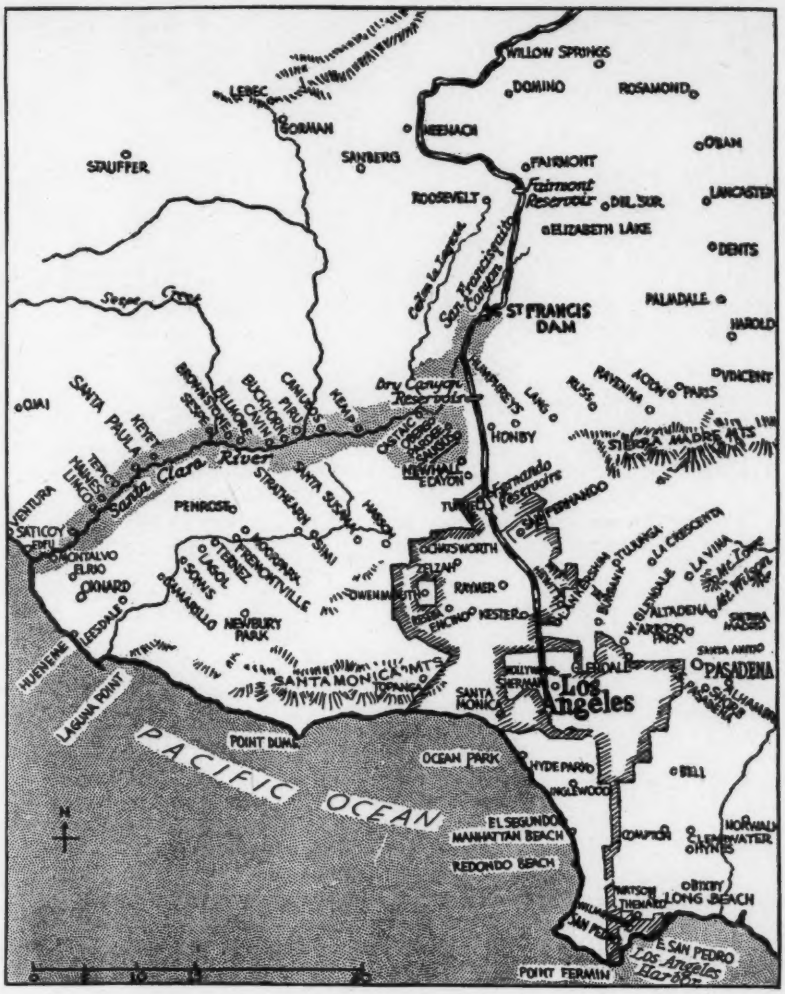


PLATE NO. IV. The St. Francis Dam maintained a reservoir of 36,000 acre feet of water with a depth of 85 feet at the central portion of the structure. The central arch of the dam that withstood the flood was 75 feet wide with a height of 205 feet. This map shows the stricken area and the relation of the various sections of Los Angeles County to its metropolitan city, the St. Francis Dam, the Santa Clara Valley and the Los Angeles Aqueduct.

The main dam was anchored by an abutment deep in the west side of the canyon, beyond which there was a marked depression. In order to secure greater storage capacity in the reservoir, a concrete dyke (on a conglomerate plan foundation), was constructed from the main dam across the depression, for a distance of approximately 1,500 feet. The dyke was, in fact, a secondary dam.

It is particularly important to keep in mind that the reservoir had practically been at FULL CAPACITY for the SIX WEEK PRECEDING the disaster, thus presenting an unprecedented hazard. This situation agrees with the storm conditions shown on PLATE NO. I.

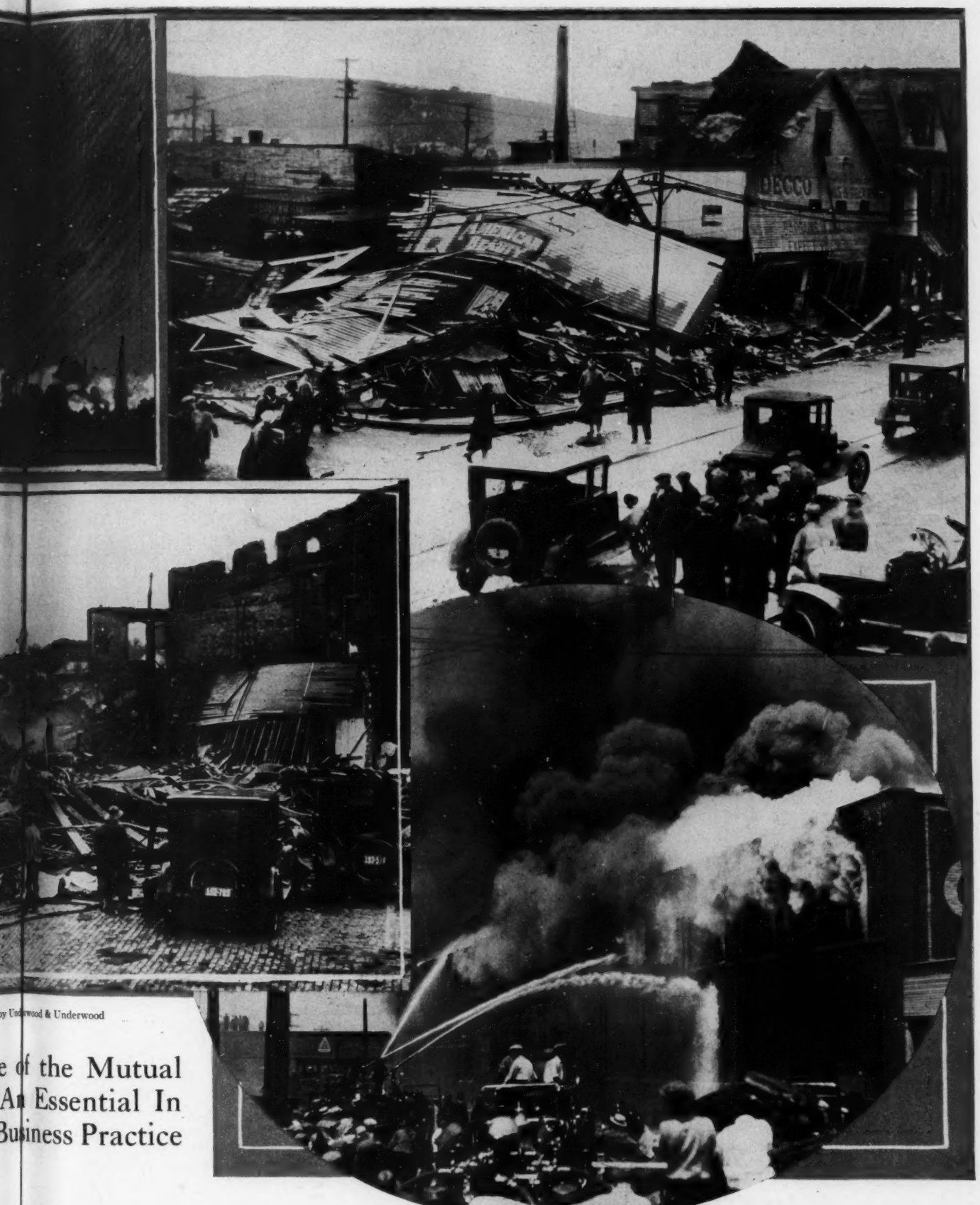
Photos by Underwood &

Insurance of th Kind Is An Es Modern Busine

The Tornado Which Operated Here *Apparently Was of the Type Which Caused an Explosive Action on the Inside of Buildings.*

This Big Lumberyard in Mississippi *Was Consumed in a Fire Which Raged for Two Days and Translated Thousands of Dollars Into Smoke.*

Devastation Rampant *Made Complete Wrec of Bo Tornado Came Out of a Sultry Sky and in the Space of to a Waste of Jagged Bricks and Splinters. Note the Na Fury, Leaving Adjacent Build*



by Underwood & Underwood

e of the Mutual An Essential In Business Practice

Wreck of Both Frame and Masonry Buildings When a the Space of a Few Minutes Changed a Prosperous Area Note the Narrow Path Followed by This Meteorological djacent Buildings Untouched.

With Crushing Effect *a Different Type of Twister Swooped Down from Above and Flattened Out the Structures in This Scene.*

An Entire Block *in Chicago Was Threatened in a Blaze Which Was Difficult to Combat Because of the Large Area Concerned.*

JOURNAL OF AMERICAN INSURANCE

Copyright 1928

JULY 1928

VOL. 5 No. 7

Published Monthly by the
American Mutual Alliance
180 N. Michigan Avenue
Chicago, Illinois
Harold P. Janisch, Editor and Business Mgr.

Sources and Bulwarks of American Independence

THE fundamental declaration which sets forth the American conception of liberty and independence, of human equality under the law and in enjoyment of the opportunities which enterprise creates and the law conserves, stands, and will ever stand, among the great documents expressing the aspirations and ideals of mankind.

Written by a few men for a little people, economically and politically weak, but invincible in the spirit which animated them, it has become the charter of a mighty nation, to which more than 120,000,000 men, women and children turn their thoughts with reverent gratitude and their hopes with courageous expectation. More than that, it has become thruout the world, wherever the spark of freedom burns in the human soul, an inspiration and incentive. For other lands and other peoples it is the blaze upon the tree trunks in the forest of oppression which marks the trail by which their fellows found their way to self-government and the dignity of independent existence.

Into this declaration was breathed the purpose that since the days of Magna Charta had been deepening and broadening in the people of English tongue; into it also was breathed the fine frenzy of zeal for liberty which in the people of France sang itself to triumph in the stirring notes of the Marseillaise.

In America all of this and more came to fruition. Here a dream which had troubled the sleep of prophets and set the words of poets to marching measures found its realization.

THERE is a cord which runs thru this declaration and binds it into unity. Three strong strands are twined in it—inseparably twined. They make it unbreakable. One is the strand which represents the irrepressible desire of men to be the choosers of their own rulers, the arbiters of their own destiny; another is the strand which was woven by man's determination to be ecnomically free, to control the means of his own livelihood; and the third is the strand which was spun from that innermost, but highest and holiest, desire of the human heart to seek its spiritual goal without other constraint than its understanding of the love and will of God.

Three-ply the cord which holds the vast diversity of the American people in a mighty unity, and no one of the strands may be weakened or severed without endangering the others.

THERE was only one way in which the aims this twisted cord embodies could be sought and could be made secure. To entrust them to the care of any but the people themselves was to open the way for their betrayal. No self-perpetuating dynasty, founded upon some absurd tradition of royal blood, sustaining itself by invoking popular awe, or by threatening the force of hireling armies, could be guardian of such rights as these. If these aims, which seemed to be inherent in the evolution of the human mind and soul, were just and righteous; if they expressed the destiny toward which life had been climbing by slow degrees thru the uncounted centuries, then there must be in those who had conceived them and cherished them, who had made them the burden of their prayers and the boon for which they shed their blood, the capacity to promote their realization. It was a huge exercise of faith, in the world which then surrounded the handful of adventurous settlers, that launched itself on the great experiment of proving true so revolutionary an hypothesis.

We, of these latter days, do well to meditate on this phase of our beginnings. Principles which we accept as truisms were then a startling challenge to the ideas and prejudices of men. We do not stress enough the spiritual courage which nerved the founding fathers for their radical endeavor. Independence for them was not, as it is for us, a heritage, come by without effort or sacrifice. It was a cutting loose from tradition; a violent departure from the past; a thing to be achieved at great cost.

AROUND this new conception of the rights of men was organized a new form of government, in which the establishing of these rights, their protection and perpetuation, was committed to those who claimed them and sought to enjoy them. America became a co-operative enterprise—politically and economically. It became an enterprise of mutual interest and mutual service. Citizenship conferred not merely the title to possess the freedom, the independence, the equality of right and opportunity, but imposed also the obligation to make contribution to the promotion of these ends and to their safeguarding from inner treachery or external foe.

It is in the measure in which this sense of obligation has been keenly alert and responsive in the minds and hearts of Americans that we have advanced toward the complete realization of that earlier vision. Nothing can delay our progress so much as to become sluggishly indifferent to citizen responsibility; nothing can defeat the ultimate fulfillment of American ideals but the failure of Americans to be always intensely aware that they are dependent upon mutual effort.

It is not unnatural that such awareness should be vivid and vital in those of us who believe in what we have termed—with reason and justice—American insurance. Our faith in that principle parallels so closely the faith which has made America greatest among the self-governing nations of the world, that it necessarily emphasizes for us continually the fact that independence is the fruit of a conscious and intelligently directed inter-dependence. Mutual insurance fits as naturally into this picture which we have sketched as the citizen soldiery of the National Guard. Both are the outcome of that belief which makes security the concern of common interest.

Life Lights Against a Business Background

The Search for a Blue-Print

By S. J. DUNCAN-CLARK

I WAS on my way across the business section of the city. I had to call on a man whose office lay a matter of two miles beyond the crowded district where most of us put in our working days. It was a beautiful sunny morning, with a slight northeast breeze which kept the mercury from mounting as high as the cloudless zenith sought to pull it. Scorning the communal system of transportation, or the more individualistic taxi-cab, I decided that I would take the time to walk those two miles.

It was a season of active building operations. It seemed to me that every other block or so men were razing old structures, digging foundations, or hoisting mighty beams of structural iron into place in some towering skeleton. Wherever there was a boarded parapet around an excavation a loitering throng hung over its waist-high rail and idly watched the toilers below. Passing one of these groups of leisured gazers I spotted among them a familiar figure. He was an old friend—a teacher in a high school. It was holiday time for teachers and scholars, but it struck me as quaint that he should be spending it in this seemingly vacuous fashion.

I HALTED my steps long enough to slap him on the shoulder.

"Is this the way you take your vacation?" said I. "It seems to me that an erudite instructor in biology might find some better way to employ his leisure."

He turned with an expression half-abashed and half-amused.

"You old money-grubber," he retorted, "who are you to judge the occupations of the intellectual? I confess this may seem to be a fruitless sort of investment of the fleeting moments, which, in vacation season, fleet more swiftly than at any other period of the year, and yet could you know the reflections which were taking shape in my mind as you interrupted me so rudely perhaps even you would admit they are not wholly unprofitable."

"Possibly you own the site on which the new building is to be erected, or have an interest in the building," I conjectured with more of sarcasm than seriousness. On the salary of a high school teacher of biology such contingencies seemed utterly absurd—and were.

"No," he laughed, "my rich uncle in South Africa finds the climate conducive to longevity, and barring his demise I have no expectation of ever possessing enough to interest me financially in such ventures as this. No, my reflections had nothing of the sordid in them."

"Well," said I, "I am walking north across the park on a business errand. If you have seen enough of this and lack anything better to do, join me and tell me of what you were thinking."

"I should like nothing better than to walk with you," he said, "but as for telling you my thoughts I fear you would find them boring."

"I'll take a chance on that," I answered. "If you do not interest me I will let you ramble on while I think of something else."

So we set off together, and he talked.

"THE thing that impressed," he began, "as I halted at that barrier and watched the men working down below was the apparent planlessness of it all. That hole, as you noticed, was a confused mass of what looked like junk. Boards were carelessly piled with ends projecting at all angles; bits of twisted iron, pieces of what appeared to be heavy machinery, heaps of earth and stone, a pile of gravel, and men moving about amid this chaos with seeming lack of aim. Three men were digging in one corner; another man was pushing a wheelbarrow; several others were lifting great beams and planks from one position and chucking them down in another.

"And I thought as I gazed upon it that it reminded me of the world as I see it sometimes—apparently planless, aimless, a confusion and a chaos, with men moving about, doing this and that, getting in each other's way, but in no degree changing the disorder of it all.

"And yet, said I to myself, I know that what is going on down there is not planless. A month or six weeks from now I will pass this way again and there will be standing here the framework of a great building, in every detail of which design will be evident.

"That man pushing a wheelbarrow probably knows nothing of what is going to be. He knows only what he must do with that wheelbarrow. That much he has been told, and that much he is doing. And these other men who are carrying this heavy lumber from here to there, and those who are digging in yonder corner—what do they know of the end of what they are doing? Only that there is an end, and that what they do has some relation to it. It is an end that has been planned and that has been approved as good, and they are contributing to it. If they fail in what they are doing that end cannot be attained. Or else it can be attained only by discharging them and putting others in their place who will not fail.

"Somewhere there is a blue-print for that undertaking, which shows the significance of everything that is being done, and everything that remains to be done. I rather fancy that had I stepped into the little frame structure on the corner I might have found there a man with a blue-print, who looks down into the hole from his small window and understands what seemed so meaningless to me—a man who sees the end from the beginning, who knows the strength and beauty which are to rise above that chaotic hole.

"AND that thought comforted me strangely. I am sure that somewhere there is a blue-print for this apparently planless world of ours, this bewildering confusion of human life. There are times, of course, when as a biologist I am overwhelmingly impressed with the evidences of plan. And yet when I try to relate these evidences to the whole I am lost again. I can not see the end. I cannot see the completeness of the structure. At such times I am seized with a sense of the futility of existence—my little self, my small activities, my tiny triumphs of research, what worth have they? Are they contributing anything to a purpose? Am I and these multitudes of others with whom I jostle, with whom I work, getting anywhere? Are we but carrying the lumber of our ideas from here to there, or pushing wheelbarrows aimlessly back and forth? Have you ever asked yourself such questions about your work?"

(Continued on page 31)

Merrimack Mutual

(Continued from page 8)

For its inception, its growth, its extension, its strengthening, is but the application of the combined wisdom and lessons learned in the private lives of its directors, who have always been the leaders in the community and the surrounding towns. These men have been selected for their high principles and knowledge of affairs. Early in the history of the Company appeared the practice of guarding against a narrow provincialism by electing to its Board representative men from all trades and professions, with due regard to the need for counsel from time to time of just such men from outside the confines of Andover.

APRIL 9, 1828 Policy No. 1 was issued on the homestead of Captain Benjamin Jenkins, Jr. and this old Andover dwelling is still protected by Merrimack indemnity. Every risk had to receive the approval of the Board which met weekly throughout the first year for that purpose.

The first annual meeting, April 13, 1829, disclosed insurance in force of $213,925 for a total membership of 110. Thus were the local needs soon cared for. Accordingly the Directors gave thought to expansion. The Secretary was authorized to visit the nearby cities and towns to determine the most suitable method of developing "foreign" territory. Should the Company employ salaried solicitors — advertise — entertain applications by mail? After due deliberation upon hearing the Secretary's report, a definite policy was established by a vote of the Directors.

One of the decisions was that the Merrimack should be conducted as a local agency company. The first agency representation was accorded to the leading merchant and innkeeper at Beverly, Mass. because of his enviable position to pass upon the personal features so vital in Fire Insurance underwriting thus emphasizing that the essence of Mutual Insurance is selection.

During these 100 years the Merrimack has had this ideal constantly in mind and is today relying upon the knowledge and cooperation of licensed local representatives as the means of best serving its policyholders.

THE official roll of the Company contains the names of seventy-nine directors. Twelve of the Directors have contributed of their time by the suffrage of their fellow members, in terms of thirty years or more on the Board. While the Merrimack has had the benefit of the wide range of advisory opinion accruing from the control of so large a number of member Directors, it has also had the steadying influence that inevitably results from the active management of a few trained men following each other in measured succession after each officer has experienced a period of apprenticeship under his immediate predecessor.

The Presidency has known seven men of whom four performed the secretarial duties for a combined period of eighty-two years.

Under this sustained management has progresed the accumulation of protective assets and surplus which, although retarded by the crises brought about by the stress of money conditions during panics and the Civil War period, by fluctuations in the loss ratio at various intervals, and more especially at times of conflagrations like Chelsea and Salem, yet continues on steadily manifesting an ability to withstand even the unexpected.

Not unworthy of note has been the prestige of the Company among its friendly competitors, which has resulted in the transfer to Andover (for the economies of centralized management) of two other mutual companies of standing and reputation,—the Cambridge Mutual Fire Insurance Company founded in Cambridge in 1833, and the Lynn Manufacturers and Merchants Mutual Fire Insurance Company instituted at Lynn in 1907 with a guaranty capital of $100,000. All the companies are now under one management and program of operation.

THE one hundredth financial statement of the Merrimack mirrors a growth from its original $100,000 insurance in force to $136,039,460 of property values protected by its accumulated funds. From a corporation having no surplus, it has earned and laid aside a cash surplus over all liabilities of well over $300,000. Without assets in the beginning, it passed into the $1,000,000 class in 1927.

While building up this financial structure, the company has reimbursed the policyholders in losses to the amount of $4,700,000 and lowered the cost of their insurance $2,360,000 in dividends returned.

Legally admitted to twenty-one states of the Union, receiving the cooperation of over 1000 local agencies, and utilizing the most modern facilities of inspection and selection service, the Company enters its second century with a sound foundation of finances and insurance knowledge, and a high type of policy membership.

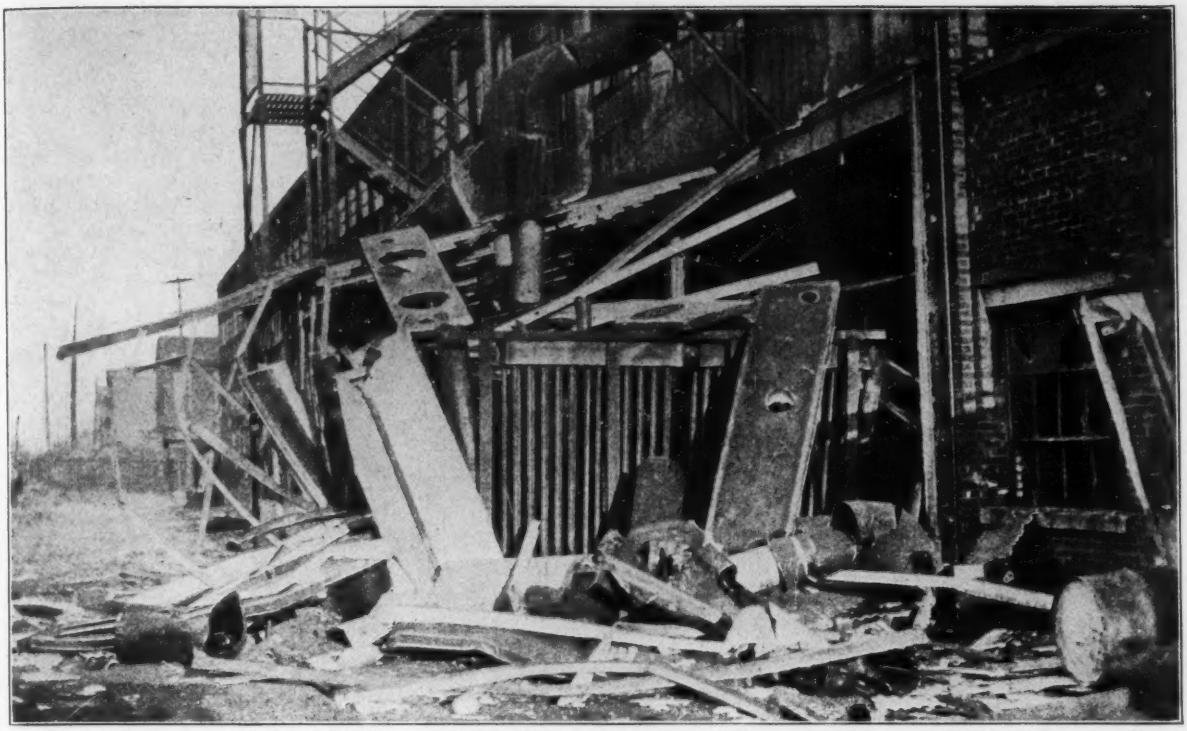
The present Board of Directors consists of J. J. E. Rothery—Member Gilmour, Rothery & Co., Boston, Insurance. James C. Sawyer—Treasurer, Phillips Academy, Andover. Augustus P. Thompson—Retired, Andover. Frederick H. Jones — Hamilton Emery & Corundum Co., Andover. Harry R. Dow, Esq.—Judge of Probate Court, North Andover. William E. Burrage —Vice Pres. and Treas., Cambridge Mutual, Cambridge. Abbott Stevens —Treasurer, M. T. Stevens & Sons Co., North Andover. Burton S. Flagg—Pres. & Treasurer, Merrimack Mutual; Pres., Andover Savings Bank; Treasurer, Abbot Academy, Andover.

Governmental Regulation

(Continued from page 11)

united front in their work for better and more uniform insurance legislation. Among other things he is reported to have said: "Let us as practical men assume once and for all that the insurance business is going to be regulated in detail by law and closely supervised by forty-eight or more states of the Union, and, perhaps, by the Federal Government as well . . . Then we come at once to the problem of how to get on with forty-eight or more independent sovereignties each imbued with the notion that it should regulate not only business transacted within its domain but in other domains as well." Continuing, in another connection, he added: "Why, then, can we not maintain organizations among ourselves which will not only work for the general interests of the business, but against which the charge of personal interest cannot fairly be raised, and against which it is not likely to be presumed. An association of companies which would fearlessly represent the interests common to both large and small, those of the east and of the west, of the north and of the south, whether mutual or stock in their form of organization, would surely be representative of the business in a sense which could not be said of any company alone." And finally, he voiced the belief which to us seems both wise and sound that it is in conferences such as those carried on by the

(Continued on page 29)



The explosion wrecked two ovens and the outside enclosure which housed them. The greatest force was vented outside the main building. This shows the advantage of locating ovens where an explosion will cause the least serious building damage.

Another Japan Oven Explosion

That the Price of Safety In Japan Baking Ovens Is Ample Ventilation Is Shown by Analysis of Causes of Blast In Jersey City

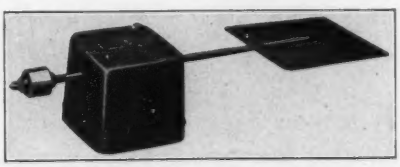
Reprinted from the
Factory Mutual Record
By Courtesy Associated Factory Mutual Fire Insurance Companies of Boston, Mass.

NEAR twelve on a night in winter, an explosion in a japan oven shook the plant of Snead and Company in Jersey City. The oven ventilation had been inadequate. A bad explosive mixture had formed, and the ordinary heat of the oven had set it off.

The oven and another one nearby were housed in an outside lean-to enclosure, of corrugated asbestos on steel frame, which adjoined and opened into the main building. The explosion completely demolished the enclosure and both ovens, hurling parts of them a hundred and fifty feet away. A small piece of the corrugated asbestos flew across the alley with such force that it pierced a tile building-wall and remained imbedded there. Three men at work near the ovens received a few scratches, but were otherwise uninjured.

Deposits of japan on the floor inside the main building ignited. Two sprinklers opened. Men quickly seized chemical extinguishers and helped to put out the fire. They also shut the main gas valves near the ovens. The explosion damaged sprinkler piping, and caused leaks; but the controlling valve was quickly closed when the fire was out, so that little water damage resulted.

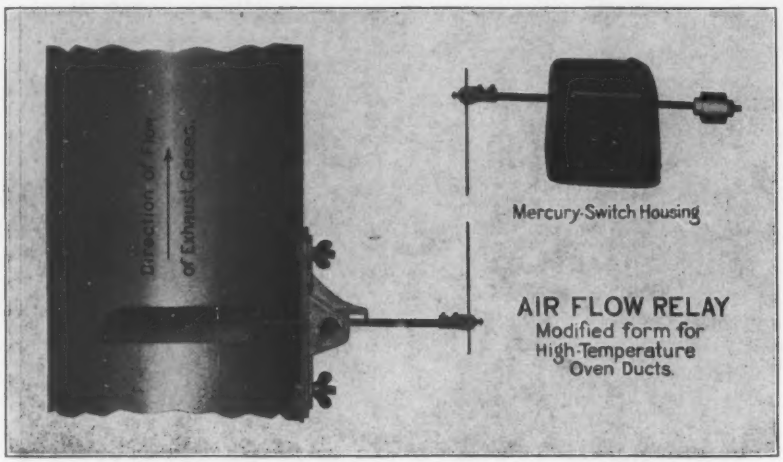
Most of the loss is due to the complete destruction of the ovens and their housing. Fortunately, the corrugated asbestos was light, did not resist the explosion, and thus allowed the greatest force to be vented outside the main building. Inside, a partition was dislodged, with little other damage. Four hundred panes of glass were broken. A preliminary estimate of the loss is between $10,000 and $15,000. It would have been much greater if the ovens had been inside.



This model originally developed for air-cooled transformers can be used for low-temperature oven ducts.

Both ovens were of the gas-fired box type, with combustion and baking compartments separate so that inflammable vapors were not in contact with the gas flame. The temperature was controlled thermostatically and did not exceed 450° F. Ventilation was by natural draft through two vent pipes which joined into a common stack above the roof. The ovens were new and in good operating condition.

The process was to dip flat pieces of sheet metal in japan thinned with Varnoline, a turpentine substitute similar in hazard to kerosene; and then to hang them over the drip board for air drying about half an hour. The ovens were then loaded and the bake started. On this night, the charge had been in the oven about half an hour when the explosion occurred.


Direction of Flow of Exhaust Gases
Mercury-Switch Housing
AIR FLOW RELAY
Modified form for High-Temperature Oven Ducts

A normal flow of ventilating air and exhaust gases holds the vane tilted upward. If the rate of flow drops, the vane returns to the position shown above and opens a mercury switch, operating a circuit which rings an alarm and shuts off the oven heat.

The completeness of the wreckage shows that the explosion must have been of nearly maximum intensity, which would require a thinner vapor and air mixture of theoretically ideal proportions. Such a mixture can be ignited by heat alone and does not require an open flame or spark. The temperature of the heater tubes would be considerably higher than the oven temperature itself and would be sufficient to cause ignition. Previous explosive mixtures had no doubt existed in the oven, but the combination of mixture strength and heat had previously not been just right for an explosion.

Mixtures in the lower limits of the explosive range, containing more air than the ideal mixture, cannot be ignited in this way, but can be ignited from open gas burners in the ovens, from small fires which may start in japan drippings from work not properly drained, or from electrical or mechanical sparks. An explosion of such a lean mixture is of comparative mild intensity and would not have caused the complete destruction which occurred here.

Since explosive mixtures in japan ovens can be ignited by heat alone, the remedy is to keep the concentration of vapors below the explosive range by ample ventilation. Three hundred and fifty cubic feet of air per minute are needed to remove safely every gallon of evaporated thinner in an oven charge. This rate of air flow is based on the fact that practically all of the thinner evaporates during the first twenty minutes in the oven. The amount evaporated in a typical charge can be determined by carefully weighing the work before and after a bake. On this basis, positive ventilation by fans or blowers should be provided.

After adequate ventilation has been provided, the next step is to see that it always functions properly. An Air-Flow Relay, previously and successfully used to indicate a drop in air flow from air-cooled transformers, can be adapted for similar use in oven exhaust ducts. This device consists of a light metal vane which is set so that it is normally swung out of position by the required flow of air. When the flow is reduced or ceases altogether, the vane returns to position and opens a mercury switch. This switch is in a circuit arranged to ring an alarm and to shut off the heat supply, thus stopping the oven until the trouble is found and remedied.

The model of the Air-Flow Relay already developed has the vane arm connected directly to the switch mechanism. A few of these have already been installed for oven protection. The switch housing is placed just outside the duct, and the arm extends through a slot to the vane inside. This arrangement is satisfactory where the temperatures do not exceed one or two hundred degrees. If temperatures are higher, heat will be transmitted through the arm and will affect the proper operation of the switch. To overcome this difficulty, a modified installation has recently been developed, in which the switch housing is a separate unit and is placed far enough away to be free from heat intereference. Connection to the vane arm is made with heavy wire as shown.

The vane can be taken out easily and should be cleaned at regular intervals. Excessive japan deposits by their weight will hold down the vane and make the device inoperative, but this will stop the oven and is, therefore, a safeguard. It will also indicate that the exhaust ducts themselves should be cleaned.

The use of this device for oven ducts is so recent that practical experience is not yet available, but tests have been encouraging. The device seems to be a solution of the problem of automatic control of oven ventilation.

The price of safety against explosions in japan baking ovens is ample, assured ventilation.

There is a decided advantage in locating ovens where the force of an explosion will be vented without causing serious damage to main buildings.

New Book on Casualty Insurance

PROFESSOR C. A. KULP of the Wharton School of Commerce and Finance, connected with the University of Pennsylvania, and author of interesting articles published in the Journal, has written a book on Casualty Insurance, which is certain to prove useful to students of that great field of underwriting.

Its six-hundred-ten pages comprise, as the announcement says, a survey "in one volume of what you would have to assemble from thousands of pages of scattered sources."

In the book is treated in brief form the subjects of Workmen's Compensation, Public Liability, Automobile, Property Damage, Accident and Health, Burglary, Plate Glass, Power Plant, Forgery, Sprinkler Leakage and sundry other lines. Each type, so far as possible, is covered from the standpoint of

1. The risk covered;
2. The promises and exceptions or limitations made by the insuring company;
3. The duties of the insured before claims and in making claims;
4. The rights and liabilities under the policy of both insurer and insured;
5. The meaning and use of the co-insurance clause and other endorsements;
6. How rates are determined and premiums calculated.

A VAST amount of research has been compressed into this volume, which doubtless is intended for use as a text book for college insurance courses, as well as a reference work for practical insurance men already engaged in the business. It is elaborately indexed and the bibliographical references occupy a number of pages.

(Continued on page 31)

Accident and Health Insurance

Consideration of This Species of Protection, With Especial Emphasis Put On the Non-Concellable Provision In the Policy

By C. A. KULP

Assistant Professor of Insurance
Wharton School of Commerce and Finance
University of Pennsylvania

THE oldest casualty insurance line both in this country and abroad is personal accident and health insurance. Personal accident and health insurance includes only insurance (1) issued to the individual insured (excluding workmen's compensation; (2) issued to one person (excluding group accident insurance); (3) issued in a separate contract (excluding the disability clause in life policies). Since today most of this insurance is sold by the life companies, we are likely to think of it as exclusively life insurance, but there are at least 2 reasons for the classification we have given it. First, it was originated by the casualty underwriters and a considerable fraction of total premiums is still written by them. Second, and perhaps more fundamental, its essential features have much in common with the casualty insurance business, little with life. Policy forms, for example, are not standardized (except as the various states make the insertion or omission of particular clauses obligatory); rate-making is far from scientific; underwriting principles change almost from day to day. This is not by way of negative criticism, but a statement of the essential facts necessary for a knowledge of the background of the business. No one recognizes their truth more freely than those actively engaged in the accident business, and the most outspoken critics are those closest to the problem. One indication of this is that at the present time the Bureau of Personal Accident and Health Underwriters is engaged in the collection and classification of a very considerable mass of rate-making data, so that we may expect that with the passing of time, the accident and health business will become not only bigger but better.

Photos by P. & A.

Taking the Whole Country Over, Odd Accidents Are of Daily Occurrence. Who Would Have Expected a Motor Coach to Tumble Toward the River Or a Harmless Looking Wall to Fall On a House

Essentials of Complete Accident and Health Protection

THE requirements of complete disability protection are, broadly, those of all insurance, life, property and casualty. They may be listed:

1. The insurance must provide substantial indemnity.

2. The insurance must provide dependable protection.

3. The insurance must be modest in cost.

1. The insurance must provide substantial indemnity for actual loss sustained by the insured. In accident and health insurance, the loss insured against is that of working time, no matter how the insuring clause is phrased nor on what basis payments are promised.[1] The so-called commercial policy (which represents the bulk of the business), it is true, does not make use of the expression, "loss of working time." It covers usually "loss from bodily injuries effected solely through accidental means" and "loss from disease." Nevertheless the hazard insured is not that of disability as such but of *disability to work*. The distinction is fundamental and is illustrated by certain rigidly applied rules of insurers which restrict disability insurance to those with steady incomes and limit the amount of insurance always to less than the usual earnings of the insured. Again, for ease of administration and to strengthen the pull of advertising, accident and health insurance companies have made free use of the lump sum and the fixed amount per month or week as a method of making payments. Entirely apart from the standpoint of advertising, it is much less wasteful both of underwriters' and claim adjusters' time to set in advance a round sum which is assumed to equal the loss in dollars of working time in case of death or disability, than to attempt to measure precisely the hazard beforehand and the amount of loss after an accident. (One angle of the problem of moral hazard is also solved by this method—the claim adjuster need decide only whether an insured is entitled to indemnity or not, the necessity of deciding *how much* indemnity being already settled. The method, however, makes it imperative that the insurer analyze carefully the income of every applicant for insurance. (See later.) These reasons for the lump sum and rounded indemnity amount are all the more important because of the smallness of the average policy, which could not support excessive administration costs. Added to these factors are the imperative necessities imposed by the merchandising and advertising departments of a business which has always been keenly, even suicidically, competitive. To promise a man that you will pay him exactly what he stands to lose if disabled is fair, but it will not do as an advertising approach. $200 a month may be only half what a prospect enjoys as steady income, but because most of us visualize only the concrete, the lump sum approach will sell 100 policies while the indefinite approach (if there were such a contract) would be selling one.

[1]To be sure, the insured's disability may result in loss other than of current income. Thus complete disability insurance will pay also for unusual expenses resulting from disability which would otherwise have to come out of savings, as hospital and medical expenses.

CONVENTION HEADQUARTERS AT MILWAUKEE

for the

FEDERATION

The New Pfister House

Make Reservations Through the American Mutual Alliance

for the

ASSOCIATION

The Schroeder Hotel

Make Reservations Direct to the Hotel

Overpayment: Moral Hazard Must Be Kept Down

PROMISING the insured substantial indemnity of his time-loss carries with it 2 important connotations. One we have already implied: he must not be overpaid. An insured who may make profit out of a claim is a bad moral risk and is undesirable. He is expensive not only to the insurer; the cost of supporting him is passed on inevitably to the honest policy-holders. Restricting disability insurance to those who have something at stake goes far toward elimination of this sort of moral hazard. But it is preventive and negative only; hence, for those applicants accepted by the insurer, a further positive check is placed on moral hazard by limiting the amount insured to something less than the insured will probably lose through disability. No one should suppose for a moment that these (and most other) restrictions are placed in the policy just because the insurer wants to cut its payments. The tendency, in fact, in the past has been, not to give the insured less than he has paid for, but more.

Moral hazard of this kind is a particularly serious problem in accident and health insurance for a number of reasons. Some are inherent in the nature of the hazard assumed by the insurer; some are merely reflections of the comparative lack of actuarial development of the line. Illustrative of the latter is the less careful selection of risks (compared with life insurance) and the small amount of the average policy. Illustrative of the former is the fact that what we may call the basis of insurability in accident and health insurance, the earnings of the insured, is a quantity which may fluctuate widely even for the highest income groups. Whether a cut in the income of the insured is due to general business conditions or to events connected directly with his own occupation, the result is the same, and no careful insurer wishes to issue coverage too close to a man's current income. Hence the following underwriting rules are generally applied: Coverage is limited to a determined fraction of the income of the insured (for example 80%); income from investments and the like is excluded in computing the basis of insurability; limits of indemnity are fixed for each occupational classification; requests for insurance above certain amounts for any classification must be submitted to the insurer's home office for special consideration.

The nature of the accident and health cover also bears on moral hazard in another, but no less serious way: in the opportunity given to malingerers and worse. So easy is it for the dishonest insured to exaggerate, to aggravate a real disability, even deliberately to produce one; so difficult is it even for honest physicians (of the dishonest there are not a few) to detect simulated pain and distress; so sympathetic are court and jury, that the insurance company must protect itself, not only by limiting the amounts insured as we have shown, but by placing still other limitations in the contract. Among the latter are limitations on the number of weekly or monthly payments promised, and provisions that the insured shall permit the company to examine him from time to time, that the company may be allowed to make an autopsy (when not forbidden by law), and most important, that the company has the right to cancel the insurance. This right of the company to cancel will be discussed more fully presently.

Underpayment: Technicalities Must Be At a Minimum

SUBSTANTIAL indemnity connotes that the insured will be paid for losses due to the hazard of disability with the very minimum of

(Continued on page 28)

Photo by P. & A.

This Type of Airplane Accident Is Becoming Too Common to Be Ignored by the Innocent Bystander

Rate Making In Aviation Insurance

Analysis of Experience So Far Gathered In the Underwriting of Risks Having to Do With Navigation of the Air

By STEPHEN B. SWEENEY

Assistant Professor of Insurance
University of Pennsylvania

ARTICLE V
PART II

THE aviation insurance premium is a confusing one. It may be the cost of insuring a risk against any one of the hazards discussed in previous articles. Then again, it may be the cost of insuring against any number of them, the number being determined by the hazards that happen to be grouped together into a particular company's "Comprehensive Policy." This "group premium" is not used "on the street," (i. e. among agents and brokers). It is the result of the attempt of general writers, popular speakers, and brokers to give to the uninitiated a picture of the insurance phase of aviation costs. (For example, the Department of Commerce and A. E. C. Report, "Civil Aviation," pp. 160 and 165 states, "A typical premium is 17½ per cent of the value of the plane for a comprehensive (English twelve months policy)."

Rating Methods

STATISTICALLY there are only two kinds of rates, judgment and manual. Judgment rates are arrived at by observation and mental estimation of the degree of hazard.

Manual rates, on the other hand, are based on statistics gathered for a standard risk subjected to each hazard or group of hazards. These statistics may be weighted to arrive at the manual rate but the weighting, itself, usually has a statistical basis.

A manually rated risk may be merit rated. This merit rating is an attempt to give the particular risk credit or discredit for its variation from the normal or standard used in arriving at the manual rate.

There are two of these merit variations from the manual rate. They are called, (1) schedule and (2) experience rating. Schedule rating is merely a modification of the manual rate based on the physical superiorities or deficiencies of the risk in question over the standard risk. The extent of this modification may be arrived at by judgment or by statistical analysis. However found, the result of the credits and "discredits" must give the same total premium to the underwriter that would have been realized if the unmodified manual rate had been used.

Experience rating is the most advanced stage and can be used only in those cases where the particular risk or group of risks is large enough to make the individual experience significant. This rate is a mathematical modification of the manual rate according to the previous year's actual experience for each class of hazard.

Rate-Making in Aviation Insurance

DURING its eight years of existence as such, aviation insurance has never advanced beyond the stage of purely judgment rating. (Workmen's Compensation rating is one possible exception.) This can hardly be considered as discrediting when it is remembered that marine and fire insurance, its forerunners by many years, are still using purely judgment rates.

Judgment rating is found where conditions are dynamic or where conditions are so multifarious that they cannot be classified. Both of these situations exist in aviation insurance. "Consistency as to classification of risks is practically impossible under present conditions; the same pilot with the same plane engaged in operations in one part of the country would represent a greater or less exposure than in similar operations in another part. In the measurement of liability, the rate naturally reflects the degree of exposure as near as it can be reasonably determined," states one company's underwriter.

The degree of exposure, then, must be the statistical basis that will be eventually used. Various groups of statistics have been collected, but they are of little value in computing a manual rate. The Air Mail Service uses the following statistical classifications: (1) number of forced landings; (2) number of fatalities; (3) average miles flown per fatality; (4) number injured, minor and serious; (5) planes crashed; (6) average miles flown per crash. Such statistics can help little in determining what should be charged for fire, theft, accidental damage, or public liability coverages. Separate statistical classifications must be made for each hazard, or at least for the allied groups, before purely judgment rating can be supplanted.

Shortcomings of Past Loss Experience As a Rate-Making Guide

MENTION has been made of the fact that aviation risks are of a peculiarly dynamic nature. New planes, new engines and new combinations of these are being constantly offered for insurance. Past loss experience tells little of the future in this case.

It is felt that the general experience of the National Aircraft Underwriters Association will be of value to underwriters in the future. This is true, but the actual loss experience and the rates charged are of little value. The fire, collision, etc., experience can not be used now or in the future to combine with new experience to get the ever sought wide spread. It would be impossible to weight that past experience for the fact that poor planes, unlicensed pilots and non-standardized conditions were used.

The loss experience built up by such a company as The Travelers Insurance Company of Hartford, Conn., is no doubt of great value in rate making. It has remained in the field since the early days of aviation insurance with the same individual in charge throughout the period. Underwriting conditions have changed but this company can weight former experience because it has been constantly in touch with those changes as they took place.

Loss experience as a guide has the additional disadvantage, in a field of such limited spread as aviation insurance, of often forcing over-conservatism. As the loss ratio begins to approach ninety or one hundred per cent the natural inclination is to cease underwriting. The poor showing may be just temporary and a phase of the operation of the law of averages over the time dimension.

THE
JOURNAL
of
AMERICAN
INSURANCE
Reflects the Best Opinion of Insurance Experts on Subjects of Vital Interest
Have it sent to your address for $2.50 per year.
JOURNAL OF AMERICAN INSURANCE
180 No. Michigan Ave., Chicago, Ill.

Some Aviation Insurance Rate-Making Considerations and Rates That Have Been "Established"

IT must be remembered always that the competitive conditions of the market to a very large extent determine the rates that will be charged. One broker tells of getting a rate of 4% on a particular risk for the fire hazard from an aviation underwriter who sets himself up as being "most scientific" in all of his judgments. The broker "shopped around" a little and got a rate of 2½% from another underwriter. The "expert" immediately reduced his quotation to 2%.

Another broker, writing when the business was most active, said, "At the present time one has to shop all around and then there seems to be no definite standard of rates. One may be quoted all the way from 10% to 20% for the same risk. I know where there was a difference of 4% in a quotation and it developed that the company with the higher rates took reinsurance at the lower rates."

The above broker lists the following as the chief rating considerations, in addition to the general hazard factors already discussed at length: (1) Be sure the type of machine is practical and not experimental; (2) Consider the moral risk, including a consideration of the purpose to which the plane is to be put; (3) Evaluate the facilities for the care and maintenance of the aircraft.

Property Hazard Rates

THE National Aircraft Underwriters Association minimum advisory rates were as follows:

(1) Fire, 4% to 5% varying with the type of engine;

(2) Theft, 1%;

(3) Accidental Damage, 8% to 18%, varying with the rating given the pilot and with the limitation on the territory of operations;

(4) Windstorm, 1%.

Other rates were not quoted. A consideration of the above indicates that enough experience had been built up to show at least that there was some correlation between the characteristics of the engines and the hazard of fire. There were also indications of correlation between the degree of accidental damage hazard and the ability of the pilot and the territory of operations.

Typical property rates quoted at the present time do not vary much from those of a number of years ago. The following are the latest rates quoted by the underwriter most active at the present time:

(1) Fire, 2½% to 4%, based largely on the fire rating of the hangar;

(2) Accidental damage to aircraft, 12% to 17% of the present value;

(3) Constructive total loss, 5½% to 12½%, based on the definition of constructive total loss;

(4) Windstorm, tornado and cyclone, ½% to 1%, based on location of operations;

(5) Theft, ½% to 1%, based on existing protection conditions.

An additional consideration is the amount of deductible the insured is willing to assume.

The non-aircraft property hazards, with the exception of cargo loss, are looked upon as not strictly aviation hazards. The fire rating on the hangar is determined by the local rate making body and it is subject to debits and credits according to the rating schedule used. Fire fighting facilities are looked for, particularly.

Cargo rates vary from $\frac{1}{16}\%$ to 1%. Some particular factors of interest are: (1) the period of the policy; (2) nature and value of the cargo; (3) the perils to be insured against; and (4) the different companies, firms, and persons in whose hands the cargo will be from the commencement to the end of the hazard.

Damage from aircraft rates vary from 7½ cents to 20 cents per $100 of insurance. They vary according to the following factors:

	Co-insurance 50%	100%
5 miles from an established air route	20c	10c
5 miles from an aerodrome or flying field	20c	10c
All other risks	15c	7½c

Third Party Liability Rates

The public liability rates are usually quoted per ship, per year. They vary with underwriters and with types of flying (i. e., commercial, pleasure, instruction, testing or stunt flying) from $95 to $160 for the basic 5/10 personal liability coverage and from $71 to $120 for the basic $1000 property damage coverage.

Underwriters have now adopted the practice of putting large risks on a payroll basis. This calls for an initial premium and an adjustment at the end of the year based on wages paid to pilots. It is felt that pilots' wages are a fair measure of exposure. Underwriters have been loath to quote rates on the passenger hazard because of the extent of liability assumed.

Aviation workmen's compensation rates are now quoted in the manual. State laws require that a rate be established for the given state and any business written for employees in that state must be written at the filed rate. Originally the rates were quoted per aviator according to two classifications, No. 7400 and No. 7401. The minimum premium was uniformly the annual premium for one aviator.

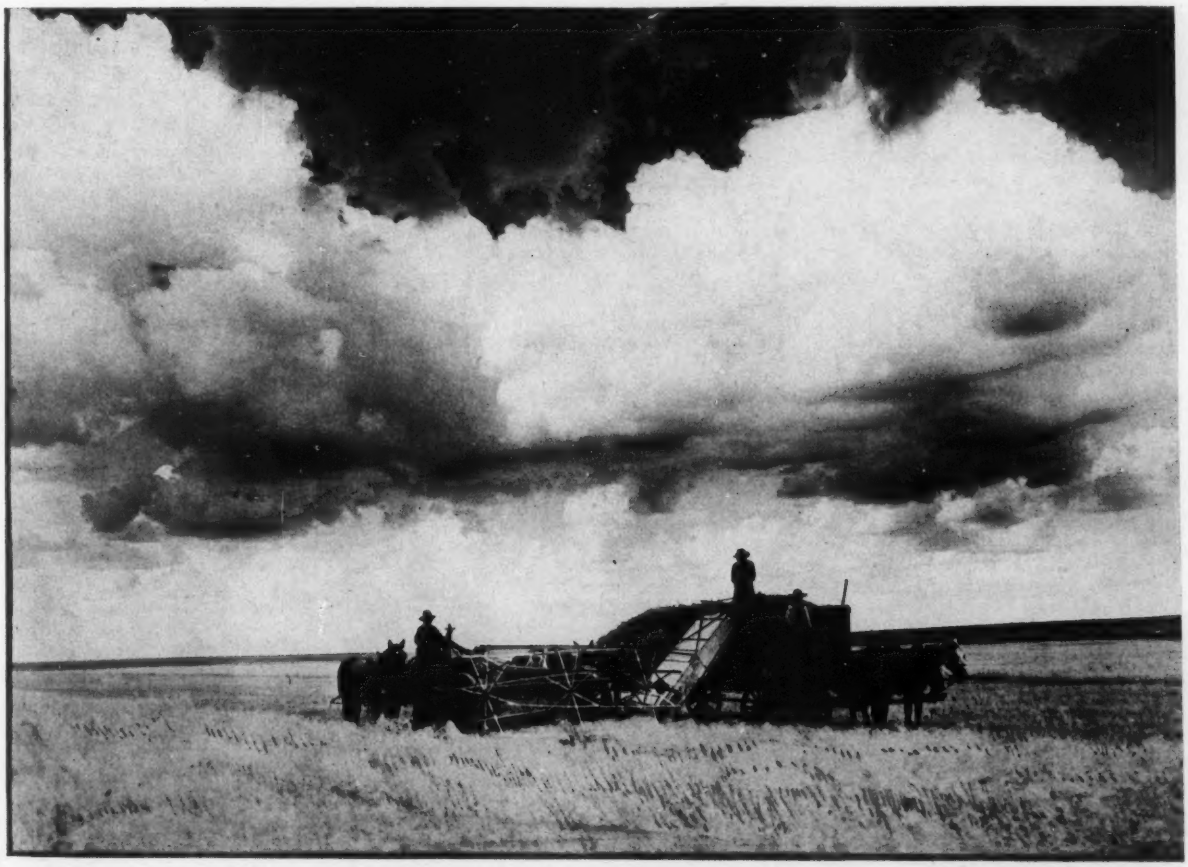
The workmen's compensation rates are the nearest to actuarial ones. The experience from the War Department records of training fields was used. Allowances were made (*a judgment element*) for the congested state of the training fields, the fact that the non-fatal statistics were probably too favorable because of field officers striving for safety records by minimizing all but fatal or very severe injuries, and for the fact that commercial pilots would probably fly 400 hours per year instead of 200, the average number of hours flown in the Air Corps. With the accident frequency thus derived the actuaries figured the cost of the death and disability benefits as provided by the various state laws. This cost was loaded 35% to provide for the following:

Acquisition	17½%
Administration	4%
Inspection	3%
Investigation and Adjustment of claims	5%
Taxes, licenses and fees	4%
Profits	1½%

The resultant premiums varied from $365 per employee per year in New York to $195 in Colorado for classification No. 7400. This variation was due to the relative generosity of states' compensation laws.

The writings of the years 1919 to 1927 encouraged the active companies to put aviation workmen's compensation insurance on the regular manual basis. The payroll basis

(Continued on page 29)



Ability to Dodge Approaching Thunder Storms Is Part of the Necessary Equipment of a Good Pilot

Accident and Health

(Continued from page 24)

limitations. Certainly a man should not be *over*insured; but he should be allowed at least adequate insurance. Here comes the rub! How give the good moral risk as much as he deserves without making skullduggery easy for the bad? As the commercial accident and health business is operated today, a good case can be made for practically every one of its restrictions, and yet the honest risk of steady income is perhaps unnecessarily restricted by the definition in the policy of compensable loss as well as by the limitations on the number and amounts of periodic payments. To cite only outstanding examples of the technicalities which condition and determine the interpretation of the usual commercial disability policy, here is its insurance clause:

> The company hereby insures (1) against loss resulting directly and independently of all other causes, from bodily injuries effected during the term of this policy solely through accidental means, and (2) against loss resulting directly and independently of all other causes from disease contracted during the term of this policy.

Given the clientele to which this insurance is sold today, given the fact that physical examination of the applicant is not required at all for accident and infrequently for health insurance—this compactly worded insuring clause surprises one, not by the presence of a large number of restrictions, but by their absence. And yet there are contained within its bounds two phrases which require the most scrupulous care in interpretation: "accidental means" and "directly and independently of all other causes." The purpose of the first is to exclude coverage of losses resulting from events or actions other than accidental; of the second, to keep separate the accident and sickness benefits of the policy, which are often for different sums. In addition, a third phrase, while not a part of the insuring clause, is very closely related to it, that covering the definition of disability, particularly total. This is not the place to detail the intricacies of accident and health insurance law but certainly it is not an overstatement to say that of every 100 cases in the courts requiring interpretation of the disability policy contract, over 95 turn on the interpretation of these three phrases. It should not be understood that it is possible to eliminate offhand these technicalities under any plan of disability insurance, but the extent to which they can safely be modified marks so much progress toward complete indemnity.

2. The Insurance Must Furnish Dependable Protection

A SECOND requirement of complete disability protection is that it be dependable. Under no circumstances should the insured be deprived of insurance through no fault of his own. Only one cause (as in practically every other insurance line) should be permitted to void the policy: non-payment of premium. This would seem offhand to be a very reasonable requirement to make, and yet it is here that the commercial policy fails most markedly to meet the need of the insured for complete protection. This statement should not be misunderstood. Probably the failure is inevitable. We shall discuss briefly the reasons for it.

VACATION TIME

IS A FAVORITE PERIOD FOR SUDDEN DISASTER TO ASSAIL LIFE, LIMB *and* PROPERTY

MUTUAL INSURANCE

is the Best Remedy

We have remarked that the business of selling disability insurance is highly competitive and the technique of rate-making underdeveloped. The best evidence of this is that the physical examination is used only in exceptional cases as a method of selecting risks; that accident premiums are flat, with no variation by age, every age (up to age 60, for example) being written and every policy renewed (up to age 66, for example) at the same rate; that health premiums are only slightly more refined, varying very crudely by age (usually two age classes, age 50 the dividing year). Whatever the cause of this backwardness, the condition exists, and to neutralize it, every commercial policy contains a provision which is the very heart of the contract. This provision gives the company the right to cancel at any time, premium to be returned pro-rata for the unexpired term. From the standpoint of the company, inclusion of the cancellation clause is absolutely essential. The company has no other real check on bad moral risk. From the standpoint of the insured, its inclusion comes very near to making his policy mean nothing at all. It is not that the companies have been quick to use their right to cancel (a high authority estimates cancellations and nonrenewals together to be not more than 2 percent)—it is that when one purchases so basic a necessity as insurance, the very least that one should expect is the *making sure* of protection. The company the insured deals with may cancel or fail to renew only 2 policies out of 100; but the law of average is no consolation to the man who finds himself one of the two. The possibility of cancellation is especially serious, since to it are exposed honest men as well as dishonest. Not infrequently it happens that the insured, after having received payments under his disability policy for one injury, is told by the company that it no longer wishes to carry him because of his greater susceptibility to further disability.

Two things are apparent: (1) the person insured under a cancellable disability policy does not have complete disability protection, and yet (2) he may have just as much as he has paid for and as much as the company can afford to give for the premium received. As in the matter of the elimination of technical definitions the problem is one of composing the requirements of both parties in interest. On the one hand, insurance without any restrictions at all is unthinkable; such insurance would be in fact a contradiction in terms. On the other, the commercial accident and health forms are seriously deficient as complete protection. Some middle course between the two extremes would seem to be indicated. We shall discuss a possible middle course presently.

3. The Insurance Must Be Modest in Cost

IN the matter of cost, commercial accident and health policies again show their relationship to the casualty insurance lines. Expense loading makes up one-half of the gross premium, of which agents' commissions run anywhere from 20 to 40 percent. These expenses are high by any standard. The high cost of getting and keeping and regetting disability business (insurance is one year term) is due directly to the keen competition. Insureds are hard to keep on the books because there is no penalty for lapse and insurance may be picked up at any time with another

or even the same company without examination and (in accident-only insurance) without increase in premium. Small wonder that the cost is high!

One obvious way of cutting the cost of disability insurance is to graduate premiums carefully by age and to require physical examinations of applicants. At present there are not yet available sufficient rate-data for the first (they are being collected), and, considering the size of the average premium, probably the expense of the second would not be supportable. The application of these methods would no doubt reduce considerably the amount of disability insurance in force, but that remaining would stick longer, cost less in losses and expense, and be more profitable to the company. One practicable method of cutting cost remains, the waiting period. It has been used to some extent in commercial health insurance, to very little in commercial accident. Its effect on insurance cost is twofold. One, it eliminates the necessity of paying and adjusting the numerous small losses which make up the majority of disabilities, at one stroke eliminating these payments (they bulk high in the absolute), more especially the administrative expense which is so large compared with the indemnity payments themselves. Two, (and this especially is important in disability insurance) not only are honest small claims excluded, dishonest are also. Without question, the greatest good of the waiting period is its second effect; the discouragement to dishonest claimants.

So much for the advantages of the waiting period to the insurer. What of the insured? It must be admitted that the average applicant for disability insurance wants to hear nothing of a waiting period. It sounds to him like a catch, despite the liberal reduction in premium he receives, which should be attractive. Much, perhaps most, of the blame for this rests with the companies and their agents, who have been reluctant to push aggressively contracts with waiting period provisions. And yet there is no reason why an insured should expect to be paid for every little cold or scratch, except perhaps for the undoubted satisfaction most people get out of collecting on their insurance policies. Surely the insured could much more economically bear the loss of a few minor disabilities out of his own pocket. He does *not* need coverage from the date of injury for complete protection; his insurance cost for such protection is high whatever the absolute size of his premium bill.

(*The Second Part of This Article Will Deal Further with the Complete Accident and Health Policy.*)

Aviation Rating

(Continued from page 27)

was put into effect January 1, 1927. An additional classification was adopted at that time, No. 7403. The new rates are quoted per one hundred dollars of payroll, ranging from:

	Arizona	to New York
No. 7400	$ 7.15	$14.37
No. 7401	11.43	22.99
No. 7403	3.83	4.68

This change will ultimately make it possible for companies writing the business to accumulate experience and check the adequacy and reasonableness of the original rate assumptions. A minimum of three years would be necessary to do this, however, and that period may be considerably lengthened by the lack of adequate exposure.

Some companies have enjoyed profits from these rates. One company, however, writes, "At the outset we offered workmen's compensation insurance on aircraft—but our experience with such undertakings was particularly disastrous." The difference lies largely in the selection of risks. In the last analysis, selection is of primary importance, especially where rates are fixed.

PERSONAL Hazard rates (i. e. those for accident insurance and for life insurance) vary according to the classification into which the applicant is put. One company has eight of these classifications which are based on the degree of exposure to which the applicant is subject, ranging from an occasional passenger to a stunt pilot. The rates vary from $20 to $100 per $1000 of insurance with extra premiums added for dismemberment and weekly accident indemnity.

The one firm impression left by a study of aviation insurance rates is that they are most unexplainable and incomparable. They cannot be compared among hazards or among companies because no two coverages, or risks are exactly alike. The only thing that may tend to greater uniformity is either complete monoply, greater cooperation, or greater competition among the underwriters. It is alleged that the great majority of American risks are reinsured up to 90% with Lloyds of London. If this is true foreign monoply seems more likely than cooperation. Foreign monoply is not assurance of more uniform rates especially where the service sold is so unstandardized that the charges can be based on "what the traffic will bear."

Governmental Regulation

(*Continued from Page 20*)

State Insurance Commissioners at their national conventions and in cooperative efforts that insurance is to receive its main support in the movement for substantial uniformity of state laws.

In conclusion, it is the opinion of men well versed on the subject of insurance that the insurance business is likely to continue to be a much-regulated business—that "there will be more rather than less of regulation." We should hope, however, that the time is not far distant when, upon all matters of importance touching broad lines of principles and of policies, the various states will come to impose practically the same requirements. The doing away with conflicting state requirements probably would do more than anything else to bring about that greater harmony between government and insurance which all parties concerned would wish to see accomplished.

FIRE INSURANCE MAN WILL REPRESENT MUTUAL COMPANY IN CANADA

Experienced Fire Insurance Man with good connection, open to put Mutual Fire Insurance Company across in Canada.

ADDRESS JOURNAL OF AMERICAN INSURANCE
180 No. Michigan Ave., Chicago, Box A-210

The Weather Hazard

(Continued from page 15)

The emission of electrically charged atoms, or corpuscles, will consequently result, at each point, of the atmosphere, in a downward current of negative electricity, which may be called the atomic or corpuscular current. This current will charge the earth until the return conduction-current balances the atomic or electronic current, at each point in the atmosphere. The penetrating radiation from the outer layers of the atmosphere provides a sufficient basis for the explanation of the maintenance of the earth's negative charge. The intensity and quality of the penetrating radiation, the number of molecules available for possible ionization by the radiation, and the range of the electrons set free, all change with the altitude. The new Milliken-Cosmic Ray possesses a greater penetrating power than any other ray yet discovered. The possibilities of its development, in the elucidation of atmospheric problems concerning climatic changes and fluctuations in temperature and precipitation, may be far-reaching. Whatever the character of the radiation-ray a considerable portion of the whole penetrating radiation comes from the soil, and is directed upwards, but this difficulty disappears when it is remembered that the average hardness of the radiation from the soil is very much less than that of the radiation which reaches the earth from the outer layers of the atmosphere.

Again, it might appear that the corpuscles set free by the penetrating radiation should, on account of their great energy, produce in the atmosphere many more ions per second than are actually found to be produced. This difficulty and others of allied nature become greatly reduced in magnitude, however, when considered in the light of the very swift radium rays passing through a gas like the atmosphere.

In Conclusion

Some of the lessons to be derived from this study and that contained in the Twelfth Section of THE RAINFALL HAZARD, appearing in the June 1928 issue of this Journal, may be briefly summarized as follows:—

1. Having deliberately selected the course of the flight, or having been assigned to flying duty on some established airway, the pilot should personally inspect his own ship, irrespective of the report of the mechanics, and satisfy himself, over and above all doubt, as to the complete serviceability and readiness of his plane for the particular duty to be performed. His own inspection must be impartial and thorough.

2. In the annual analysis of aircraft accidents, for the fiscal year 1926-1927, published January 3rd, 1928, by the Chief of the Bureau of Aeronautics, U. S. Navy Department, Washington, D. C., the following conclusions are reached:—

(a) The subject of aircraft safety and accidents is the most disquieting element to be contended with, and is today of intense interest to the general public, as well as to those immediately connected with aviation. A careful analysis has been made in an attempt to detect the underlying causes of aviation accidents and the results should be given most careful individual study by all concerned.

(b) The improvement of 1927 over 1921 (over 340%) is not due to better design and material alone, but also to better training, higher selection and greater vigilance concerning personnel.

(c) There is no means of accurately ascertaining, but it is highly probable that at least half of the 20 deaths, assigned to unknown causes, or to weather conditions, resulted from mistakes of personnel. This would credit personnel with 91 deaths, or nearly 80% of all fatalities.

(d) That collisions in the air should rank among the three leading causes of fatalities is extremely disappointing. Such accidents can, almost without exception, be termed avoidable. They are indicative of carelessness, unduly hazardous operations or, in certain cases, flying of an unauthorized nature. The elimination of this type of accident must be brought about.

(e) Tail spins still lead as a cause of fatalities and can almost invariably be traced to faulty flying judgment, which in turn, it is believed, is most often traceable to lack of experience in flying, or lack of experience in a particular type of plane, or to infrequent flying.

(f) Low stunting as one of the leading causes of fatalities is a practice in violation of all the dictates of better judgment and existing orders covering this matter. This further shows that this peculiar form of asininity is indulged in far more frequently than reports indicate. All of the three leading accidents can, with few exceptions, be catalogued as unnecessary.

(g) The effect of increased flying per year upon the occurrence of crashes shows that, despite the fact that pilots in the 400-hour class were in the air four times as much as those in the 100-hour class, and therefore exposed to flying hazards for a period four times as long, their crashes per year were 40% less. The results are highly in favor of more training, and show that the saturation point of staleness is far beyond the 400-hour limit.

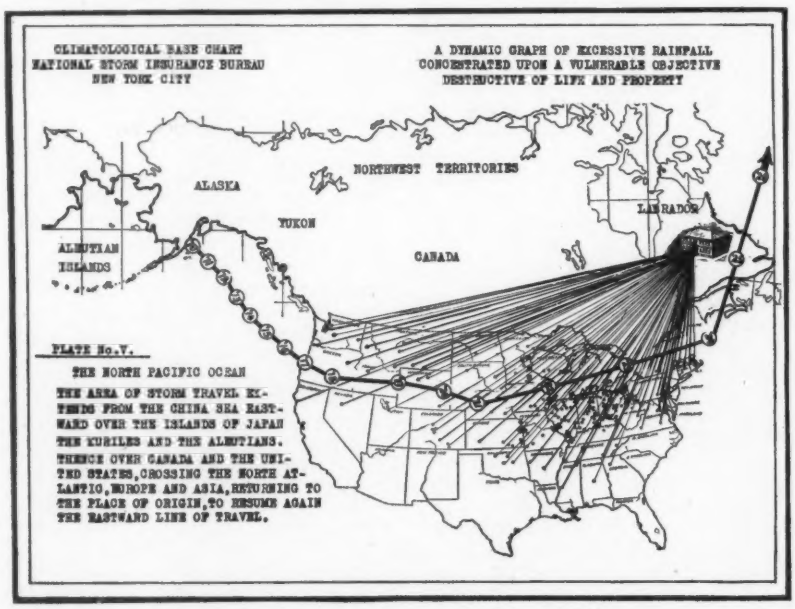

CLIMATOLOGICAL BASE CHART
NATIONAL STORM INSURANCE BUREAU
NEW YORK CITY
A DYNAMIC GRAPH OF EXCESSIVE RAINFALL
CONCENTRATED UPON A VULNERABLE OBJECTIVE
DESTRUCTIVE OF LIFE AND PROPERTY
ALASKA
NORTHWEST TERRITORIES
YUKON
LABRADOR
ALEUTIAN ISLANDS
CANADA
PLATE No.V.
THE NORTH PACIFIC OCEAN
THE AREA OF STORM TRAVEL EMERGING FROM THE CHINA SEA EASTWARD OVER THE ISLANDS OF JAPAN THE KURILES AND THE ALEUTIANS. THENCE OVER CANADA AND THE UNITED STATES, CROSSING THE NORTH ATLANTIC, EUROPE AND ASIA, RETURNING TO THE PLACE OF ORIGIN, TO RESUME AGAIN THE EASTWARD LINE OF TRAVEL.

PLATE No. V.—Cartographically represented are these ideal conditions of impounded precipitation subjected to the increments of accumulated storm water, with no spillway to reduce persistent and irresistible pressure on high-dam construction.
Storm movement and rainfall distribution are herewith graphically represented. A Cyclonic area entering the United States from the Aleutian Islands in the North Pacific Ocean in April, 1927. The path is indicated by the heavy dark line. Circles and dates within show the location of storm centers on successive days. The increasing interval between the dates shows the augmented progressive velocity of the Cyclonic area on its eastward trend.
The line of Storm Travel corresponds to the Cyclonic Rainfall-Type Path for the region traversed. See Article III, Rainfall Types, published in the January 1927 issue of this Journal.

Small dots in the central and northern portions of the United States indicate the location of recording Rainfall Stations of the U. S. Weather Bureau. Light black lines joined to these stations connect them with the Power House of the assumed Reservoir Dam, in the vicinity of a populous community, giving rise to an extreme hazard against life and property.
The illustration is made to show the forceful effect of the rainfall run-off, attending the eastward passage of a Cyclonic area, when concentrated upon a vulnerable objective. Similar concentration produced the great Mississippi Flood of 1927, and the very destructive New England flood of November 3rd to 9th, 1927, in Vermont, New Hampshire, Connecticut and Massachusetts.

(h) The effect of increased experience and total flying hours upon the crash rate is very noticeable after 400 hours in the air, and still greater after 1,000 hours of flying. During the first 1,200 hours the reduction in crashes is very marked.

(i) Within certain limits the number of crashes, injuries and fatalities are indicative of the state of discipline of the various units. Further consideration must, of course, be given to the type of duty performed, but the general conclusion is dependable.

(j) The fact that extended flights were not as safe as short flights is worthy of observation. Also military flying with its tactical formations and gunnery is more hazardous than straight commercial flying.

(k) Analysis shows that *bad judgment* and *inexperience* were reported as the two leading causes for errors in pilots during the year 1927. These results show the necessity for increased flying and improved technique. Every minute in the air is an opportunity for important self-instruction. High-stunting under accepted regulations will improve technique and control of aircraft.

(l) A detailed investigation of all engine failures occurring during 1926 and 1927 showed that over two-thirds of these failures resulted from operation, maintenance or inspection, laxness of the ground crew, or clearly negligent service on the part of the pilots. Therefore with reasonable care and operation, the reliability and security of power plants can be greatly increased.

(m) The large percentage of structural failures in the undercarriages and wheels of aircraft shows the desirability of improvement of these members, and also the necessity for greater skill on the part of pilots in protecting these weaker elements of the planes.

3. Aviation seeking protection to life and property by insurance coverage must, through its personnel, observe every possible precaution to prevent loss of life and waste of material.

4. The French fliers, Costes and Lebrix, on March 2nd, 1928, lost 43 flying hours and damaged their plane, on the airway in western Pennsylvania, between New York and Cleveland, by a forced landing, through ignoring official weather forecasts and taking their chances in the dangerous SE. quadrant of a Cyclonic LOW. The entire hazard could have been avoided, either by waiting for favorable weather or taking another airway to the south and west.

5. Ocean and Sea fliers must learn to govern their flights by the foreknowledge of all available weather information, plotted on suitable daily charts and made to cover the entire airway, from coast to coast, using expert knowledge to extend and fill in blank spaces by admissible substitutions of meteorological data. Each chart should be preserved for comparative study in watching progressive weather changes from day to day, and in learning the progression of weather phazes from, west to east, in the northern hemisphere. Blank charts for the purpose can be obtained from the Weather Bureau of the U. S. Department of Agriculture, or from the Hydrographic Bureau of the U. S. Navy Department.

6. The inherent weakness of dams to protect against the overwhelming dangers to life and property of impounded storm waters, and of river levees to protect against similar dangers from flood waters, invites the action of State Legislatures to provide the laws for enforcing the construction of SPILLWAYS and STORAGE RESERVOIRS to take over and render harmless the surplus storm waters of existing water-sheds. The rapid settlement of all parts of the United States, has made such governmental control imperative, and the enforcement of the law should be secured by adequate inspection and the imposition of proper penalties.

THE END

Business Interruption

(*Continued from page 7*)

of all plants or properties herein described for the three hundred (300) days of full operation next preceding the fire." It should be noted that a somewhat similar effect to that of a coinsurance clause is secured by limiting the amount of indemnity recoverable for any one day to a fraction (1/300th or 1/365th) of the total amount of insurance. The word "day" or "working day" is stated in the policy to cover twenty-four hours. Per diem liability under the seasonal policy form is adjusted accordingly, and for a three months' period, for example, would be 1/75th or 1/90th of the amount of insurance.

The business interruption, or use and occupancy, policy assumes no liability "on account of damage to the finished product, or for the time required to reproduce any finished product which may be damaged." Just as under the standard fire policy, so here the insured is not entitled to compensation on account of delay "occasioned by any ordinance or law regulating construction or repair of buildings, or by the suspension, lapse or cancellation of any license or for any other consequential damage." Only raw stock, stock in process, may properly be covered in a manufacturing risk, as finished stock has already passed through the process of production and a profits form of policy is required for it. The appraisal clause refers to the fire policy to which the business interruption policy is attached, and requires that "in case the insured and this company are unable to agree as to any question affecting the amount of loss under this policy, the same shall be determined in the manner provided by the policy to which this form is attached, the provisions of which policy shall govern in all matters pertaining to this insurance, except as herein provided." The lightning hazard may be assumed under a lightning clause, except as provided in an electrical exemption clause, which may also be added. It exempts the company from liability "for any use and occupancy loss resulting from damage to dynamos, exciters, lamps, switches, motors and other electrical appliances or devices, caused by electrical currents whether artificial or natural, including lightning."

(*Continued in our next issue*)

New Books On Casualty Insurance

(*Continued from page 22*)

If one reads "Casualty Insurance" for what it is, a condensed summary, treating in encyclopedic manner a wide variety of topics, each worthy of book length discussion, there can be only commendation for the admirably accomplished effort. However, for intensive study of specific questions of controversial nature, the conclusions in some instances should serve largely as guides to further investigation. For example, no few paragraphs could settle for all time the matter of the comparative merits of mutual and stock companies, or the desirability or undesirability of compulsory automobile insurance, or tread the many mazes of workmen's compensation underwriting.

Any library of insurance will be the gainer by adding this volume to its shelves, and the individual who needs a handy reference work to look up the high-lights of casualty insurance will find the book indispensable.

Lifelights

(*Continued from page 19*)

He shot the last question at me almost savagely.

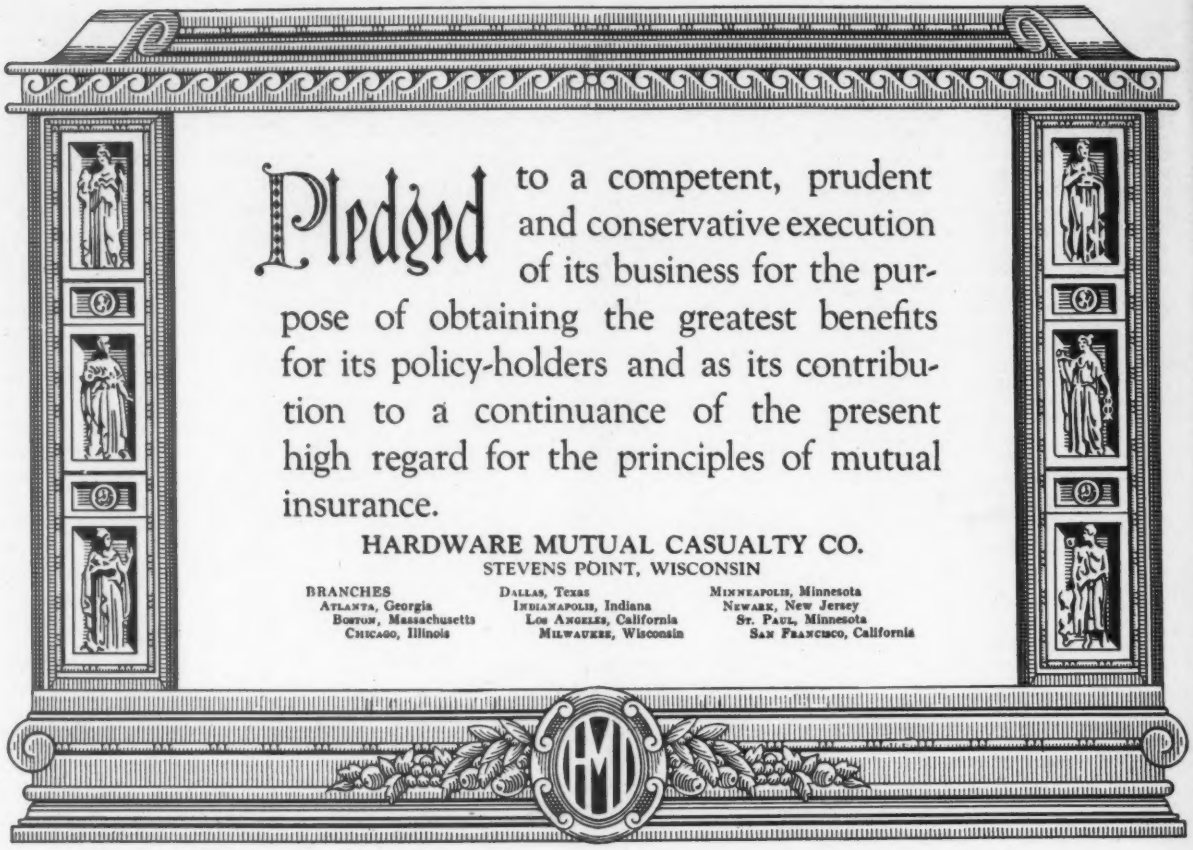
"Well," I answered, "I suppose every man who thinks at all has had thoughts like that."

"Just so," he replied. "And the only thing that can keep us going steadily on with our jobs, doing our best, is belief that somewhere there is a blue-print of the whole. Somewhere there is a mind that understands what we are doing, and that sees the end from the beginning. Some day the structure will take shape, and we will have done our part in making it possible. I do not think I was wasting my precious vacation by watching the workmen in that hole."

Milwaukee Convention

PLANS are already well under way for the big gathering of the Federation and Association in Milwaukee on October 1st, 2nd, 3rd and 4th.

There is still time, however, for suggestions to be made concerning topics which might be discussed. These will be gladly received and passed along to the committee in charge of the program if sent to the American Mutual Alliance, 180 No. Michigan Ave., Chicago.


Pledged to a competent, prudent and conservative execution of its business for the purpose of obtaining the greatest benefits for its policy-holders and as its contribution to a continuance of the present high regard for the principles of mutual insurance.
HARDWARE MUTUAL CASUALTY CO.
STEVENS POINT, WISCONSIN
BRANCHES
Atlanta, Georgia
Boston, Massachusetts
Chicago, Illinois
Dallas, Texas
Indianapolis, Indiana
Los Angeles, California
Milwaukee, Wisconsin
Minneapolis, Minnesota
Newark, New Jersey
St. Paul, Minnesota
San Francisco, California
HM

JOURNAL OF AMERICAN INSURANCE

ISSUED MONTHLY

CONTAINS NEWS AND TIMELY ARTICLES ON TOPICS OF LIVE INTEREST TO THE INSURANCE WORLD EVERYWHERE

Subscriptions $2.50 Per Year

Address:
180 No. Michigan Ave., Chicago, Ill.

Twin Mutual Group

Grain Dealers Mutual Fire Insurance Company
Automobile Mutual Fire Insurance Company
Automobile Mutual Liability Insurance Company
Beacon Mutual Fire Insurance Company

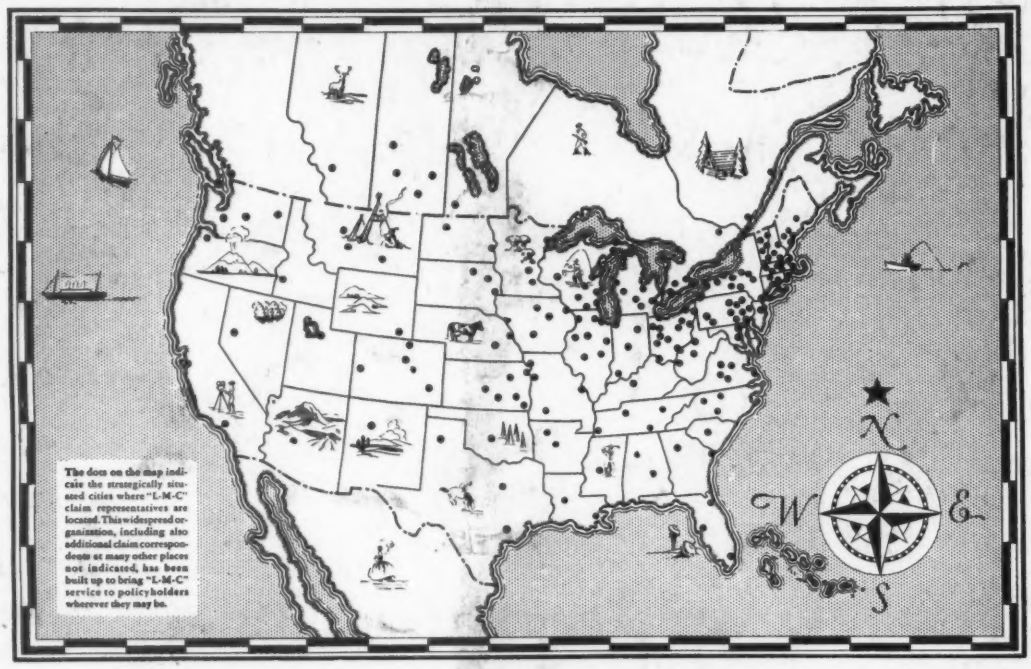
An organization of Massachusetts Mutual Insurance Companies associated under one management and devoted to reducing insurance costs. Dividends 20% to 25%.

Twin Mutual Group
211 Congress Street
Boston, Mass.
A. Shirley Ladd, Secretary

SAFETY
FEDERAL HARDWARE
and IMPLEMENT MUTUALS
Minnesota Implement Mutual Fire Insurance Co.
Owatonna, Minnesota
Retail Hardware Mutual Fire Insurance Co.
Minneapolis, Minnesota
Hardware Dealers Mutual Fire Insurance Co.
Stevens Point, Wisconsin
Combined Assets $9,791,548.95
Liabilities 6,177,028.89
Surplus 3,614,520.06
Dividends Returned To Policy Holders Since Organization
$23,187,943.62
STRENGTH

Nationwide Insurance Service for Motorists

Of Special Interest Now In Vacation and Touring Season


The dots on the map indicate the strategically situated cities where "L-M-C" claim representatives are located. This widespread organization, including also additional claim correspondents at many other places not indicated, has been built up to bring "L-M-C" service to policyholders wherever they may be.
N
W
E
S

From Seattle, Washington to Jacksonville, Florida—East or West —anywhere in this country or in Canada — day or night — the "L-M-C" policyholder is within easy reach of one of our claim representatives, if he needs service in an accident or emergency.

If you plan to tour on your vacation this year or even to take week-end trips, this is of real imporance to you. Anyone who has had an accident away from home, where he was not known, realizes how invaluable the help of our claim service representatives can be.

The "L-M-C" offers you the combination of coast to coast claim service, absolute protection, and an unbroken record of annual cash dividend savings to policyholders.

Lumbermens Mutual Casualty Company

JAMES S. KEMPER, President

Pantheon Building **Chicago, U. S. A.**

Associate Company
Under "L-M-C" Management AMERICAN MOTORISTS INSURANCE COMPANY